



# SEQUENCE LISTING

<110> Rahme, Laurence  
He, Jianxin  
Baldini, Regina  
Solsbacher, Jens  
Wagner, Peter

<120> Virulence-Associated Nucleic Acids and  
Proteins and Uses Thereof

<130> 00786/435003

<140> 10/660,811

<141> 2003-09-12

<150> US 60/410,376

<151> 2002-09-12

<150> US 60/410,817

<151> 2002-09-13

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<170> FastSEQ for Windows Version 4.0

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<212> DNA

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| gctgctaaac | agactcgttg  | taacgggagt  | ggaaaccctt  | cctagagaaa | cctacgacca  | 84780 |
| gttgtctttt | aaccaatttg  | tcgtaggttc  | gaatcctaca  | cgaccacca  |             | 84830 |

<210> 3  
 <211> 1506  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 3    |            |            |            |            |             |     |
| gtggcgctga | ccggtaatcc | cctcctgaaa | ttgctggtcg | tccccgtcgt | gatcggcgcc  | 60  |
| atcctgatcg | gcgtgagcat | gatgggcaag | aaagaaagtg | cgcagtcaca | aggcgccgca  | 120 |
| accccagcgg | taacgtcgga | agaagcggca | accctgggca | tcgacggcga | cacgcccgcg  | 180 |
| gacacactac | gcaccatcgt | ggcggaaagc | cggcagctca | aggaccagat | cagcaagggtg | 240 |
| atccaggaga | atgactcgct | caaagccgcc | aatgagaacc | tgcagggccg | cctgcgcaac  | 300 |



|            |             |             |            |            |            |      |
|------------|-------------|-------------|------------|------------|------------|------|
| atcgatcaga | acatcgagca  | gaagctcaac  | aacaccgccc | aggaactgca | gcaacagcag | 360  |
| gaaaaccgta | gccagacgat  | cctggaccag  | gtacagaaac | ggctcgagaa | cctaaccac  | 420  |
| attcccgagg | ccggtgacac  | cgacctgccc  | gtaggattcg | gcgtgcgacc | aaaggatggc | 480  |
| cagcactttc | agggagcggg  | ctcgtcttca  | tccgatatcg | tctggatcga | gccccaggac | 540  |
| gcccgcgcgg | ttgatgccaa  | tggccagccg  | ctggccgccc | gctccaccac | ccaaccgagc | 600  |
| ggattcagct | tcccgaacctc | cttcggcaat  | gcggtcgatc | gcggacagaa | cgcgctggag | 660  |
| cggatcgatg | acgggctgca  | ccccgtcggc  | caacagcgat | ctgacctgga | aaaccgcaag | 720  |
| ctcgtccgta | agacctacac  | gctgcgcgag  | aactcgacgc | tcatgggctc | ggtggccatg | 780  |
| tttgcgctga | tcggctcgtgt | gccggctcgac | gggacggtca | atgatcctta | cccgttcaaa | 840  |
| atcctcatcg | gcccggacaa  | cctcaccgcc  | aacggcatcg | agctgccgga | cgtcgccggc | 900  |
| gcggtagcca | gcgggaccgc  | ctcgggcgac  | tggacactct | cctgcgtgcg | tgggcagatc | 960  |
| cgcagcctca | cgttcgtggt  | caacgacggg  | accgtgcgca | ccttcccggc | gccggccgag | 1020 |
| gaggtgaatg | acaaccagag  | caacaacaac  | cagaccgcca | gcgccgacca | gaaaaccatc | 1080 |
| cagggcggcc | tcggctggat  | cagcgacccc  | tacggcatcc | catgcatcgc | cggtgatcgc | 1140 |
| cgatccaatg | ccaaggagta  | cctgggcaat  | cagagcctac | tcacggctgc | cggggccggc | 1200 |
| attgccaagc | tcctggacgc  | cgacgagaac  | aacaccagta | ccgtcttcag | cggcaaccgc | 1260 |
| accagcttcg | ggacgaccgg  | aaccaacagc  | aactcggccc | tcaacagcat | cctctccggc | 1320 |
| ggcgtcagcg | acatccggca  | gtggatgaac  | aagttgtacg | gggaggcctt | cgccgcgctc | 1380 |
| tacgtgcagc | caggtgcgcg  | ggtcgcagtg  | catctcgatc | agcaactggc | gatcgactat | 1440 |
| gaactcaagg | gccgcaagggt | cgattacagc  | tctggagccg | ctcatgcaac | agcagacttg | 1500 |
| gactaa     |             |             |            |            |            | 1506 |

<210> 4

<211> 885

<212> DNA

<213> Pseudomonas aeruginosa

<400> 4

|            |             |            |            |            |             |     |
|------------|-------------|------------|------------|------------|-------------|-----|
| atgatccgga | agtcgacagg  | ctcgtctctt | ctaattgctt | ccctaccac  | actggcccac  | 60  |
| gcggtggaga | ttctgcgctg  | ggagcgcatt | ccgttggcca | ttccattgac | ggtcggccag  | 120 |
| gaacgcattg | ttttcgtcga  | cagaaacgtg | cgagttgggg | ttcctcggga | tctgcagggc  | 180 |
| aagctgcgcg | tccagagtac  | cggcggcgca | ctctacctgc | tcgccaacga | gccgattcct  | 240 |
| ccagcgcgcc | tgcgccctaca | ggacgcgcac | aatggcgcgc | agatgctcat | cgatatcgcc  | 300 |
| gccaccgaag | caacggccga  | ccaacagccg | cgcgagccgg | tcaggatcgt | cgccggcgag  | 360 |
| ccagtggatc | cgcattatgg  | ccagtcccgg | gaagcccagc | catcggcagc | agcgaaacag  | 420 |
| accgagcacg | cagaagcacc  | gaaggccgtg | ccgcgcgaaa | cgcccgtccc | cgtggttctg  | 480 |
| acgcgctatg | cggcgcagat  | gctctatgcc | ccgcttcgca | cggtggaacc | ggtggatggc  | 540 |
| gtcggtcagg | tgcgcgctca  | gcgacagctc | gacctgacca | ccctgctccc | cagcctaccc  | 600 |
| atcacggcta | ccgccttggg  | cgccctggcg | ctggacgact | actacatcac | ggcggatgaag | 660 |
| ctgcagaacg | ccagcgccca  | gcacctggcc | ctggatccca | gggacctgat | gggcaatttc  | 720 |
| gtcgcgcgca | ccttcacgca  | cccgtacttg | gggccccggg | gcgacgcctc | cgacaccact  | 780 |
| accgtgtatc | tggtagcgcg  | cggcgcgcgg | cttgccgacg | cgctcctgcc | ctcctccatc  | 840 |
| agccagatcg | atcccaaagg  | aggccgtcgt | ggcgtgacc  | ggtaa      |             | 885 |

<210> 5

<211> 660

<212> DNA

<213> Pseudomonas aeruginosa

<400> 5

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| atgagtttca | gaaaacacac | tgcgcaacag | caggcacaca | tcaaacacct | ccggttcac  | 60  |
| accggcttcc | tgtgcatggg | catcgtttgt | ctggcctact | gcgtctggga | agcccgtaa  | 120 |
| gacctctgga | tccacattcc | gcccgaactt | cgctcaggaa | gcacccggtt | gtggtgggac | 180 |
| attccgccag | agagcgtcta | tgcgcttcgg | ctctacatct | tccagcaggt | gcagcgttgg | 240 |
| cccaaggacg | gcgaggtgga | ctacaaggga | aacctgttcc | gctacgctgc | ctacctcact | 300 |
| ccctcctgca | aagtcttctc | ggagaaagac | tttgagtttc | gtcgtaacgc | cgccgagctc | 360 |
| aggggtcgcg | agcgcaccac | ctcggaaatc | cccggctcag | gcattggcga | gagcaatggc | 420 |
| cgcgtgatcc | agcactcgat | caatgactgg | accgtcaact | tggacatgga | cagcacggag | 480 |
| tattacgccg | gcgagaagat | caagcgggcg | cttgcccgcg | accggttgca | cgttatccgc | 540 |

gccgacgtcg acccggaac caatcccttc ggctgcagt gggactgcta ctccgacacg 600  
cctcaacgta tcgagcttga ggagccggcc gccccacca agcgggaggg aggtctatga 660

<210> 6  
<211> 387  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 6  
atgccgaag aacatctgtt tcaggatgga accctcagct tcttgccgac ccgtttgaac 60  
cggcaaccgg tagtcatcgg cggcctgacc gcagacgaaa tgtggatcac ggtcttcacc 120  
agcggagcag ccgggttcgt tcttggcatc ccggctgcct tggtcgcagg taacgctgcc 180  
tgcatccac tgggcgcgt gctggtcggc gccctcggcc taggtatcgg cagccgcgtc 240  
ctgcggcgga tgaagcgggg gcggcccgat acctggttct accgccaggt ggagatggcc 300  
ctctcgtcgc gctttcccg cttcggcaac cgtcgcctgg ttacgcgctc cggcgcctgg 360  
accagtcgac gcacggagtc cccatga 387

<210> 7  
<211> 357  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 7  
atgctgaaac tcaccctcca gaaactgtcc gccctctgcc agagcctggc cgccatcact 60  
ttggcgctcc ccggtatcgc cttgggtgca ctccccaaac ccgaggcacc tagccgtggg 120  
gagggatcgg gcatcatgca aaccatccag aacttcggct atgacggagc gatgctctc 180  
gcgctgctca tctgcgcggc tgtctttctg ggggtcgctt ggcataccta cggcacctat 240  
cacgccatcc atgacgggaa gaagaagtgg tcggatctcg gagcgggctg agccgtaggt 300  
gtcggcctgc tgatcttgat catttatctc gtcaccaaag ccaccgccat catgtaa 357

<210> 8  
<211> 372  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 8  
atgagcatga gcggagccca gacatcagcg ttccaggccg ccgctggctt tccccatcg 60  
gccggcgagg gactgttcat tggagcagcg atgaccttcc ttctgctgtg gtccgcctgg 120  
gcgatgtaca gcacctggcg cggctggggc accaacaacc ttcgacagcg ccaccggtgg 180  
cgcttccgcg atcccgatc ttggtcctcc tcggcatcac ctctttcttc ctctcagct 240  
gacccatacg gagacactca tgctgaaact caccctccag aaactgtccg ccctctgcca 300  
gagcctggcc gccatcaatt tggcgctccc cggtatcgcc ttggctgcac tccccaaacc 360  
cgaggcacct ag 372

<210> 9  
<211> 360  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 9  
ctgatctgca cgagattcgc cgtgaacact ccacatccat cccttcgccg aagctgcctg 60  
gccgtcttgg cctgcagtgc gctggtcgca caggagctt tcgcagcgag cgcctccgag 120  
caggcgaacc tggaggtgat gatccggcag ctcaacgccc tcgaggacac cgcccgcgc 180  
agtgccagg gcgcgatga gcccgacag cgcttctact tcgactacce gcgcctggcc 240  
gctgacctgc agcgcacccg ccaaggcctg caggactaca tgacgccag ccgcgcccac 300  
ccgctgacc cttccgactt atcaggggat tacacctgc gcggaggggc gatgccatga 360

<210> 10  
 <211> 306  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 10  
 atgagcataa aacagccctt cgaataccat gtcgagaaca tcgtcattcc ctacaaaacc 60  
 ctaccaagg gcgtcgcgat gttcaaacac aaagaagaca ccttggaacc cgacgaccac 120  
 gccttgctca accctctgcg ctgggccgag gtcgtgcgtc tgggccagga aggctgggag 180  
 ctggtgagcg ttcagccact catgcggggc gtaaccgaga tcggtaatca aaacgcccac 240  
 ggctgggctt ggggcgctcg tctgcccgtc agctacctgc tgtttttcaa gcgcgcaacc 300  
 tcataa 306

<210> 11  
 <211> 312  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 11  
 atgcttagaa acatctctat tggagttttg ctagccatgg ctgctatggt gggcagttat 60  
 ggggtggctg ccgctacatt acgatgcggg tcggcaattg ttagtgaggg cgacttgatt 120  
 gatgatgtgc ttagaaagtg cggcaaccct gatagccgta aaattgaagg gcccgcagtg 180  
 gatggtagtg gctatatagt gcggggggct gctactgtcg aaaactgggt atatggacca 240  
 aggaatggat ggtaccagaa gcttaggttt gtcgatggaa gactagtcca gataaaaggc 300  
 agtatggact ag 312

<210> 12  
 <211> 1158  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 12  
 atgaaactta tccttgattt cgacggacgc cttctaaatc caagcaacat gctagaggcc 60  
 ctatcaaaaag caggaaaaaa tacaagcatc agcataagca acgcgcaagc attaaatata 120  
 gaaactcttc tcaaggcaac aaccactgca gaaaacacaa aaaacctctc aacaactttc 180  
 aacggcgag agctgactgc taacaacctt cagcaagtca taaactcagc aggatcacta 240  
 accagagtat ccacaatagc cgcacaagcc attaatataa acacacttct ttccgcaata 300  
 tctacagcag gcaactcaaa gaatttttagc gcagaattca atggagccca actcagcagc 360  
 gacaacctac ttagagcagt aaatgcgga ggaacaaaca ccagcataag cgtcaatacc 420  
 gcacaagcgg caaatataac cgcccttctt caaactattc atgcagcagg tgacacaaaa 480  
 acattcagcg cagagttcaa tggcgctcaa cttacttcaa acaacattca acaagcttta 540  
 gagcgcgag gaaccgaac atccattagc gtcaataccg cacaggcggg taatataagc 600  
 accctactag ccctcatcaa ctctgccaaa gacacgaaaa agtttagcgc cgacttcaat 660  
 ggtgcacaac taacagcaga caaccttcag caagcgatca gcgctgcggc ctcgggtacc 720  
 aatatcagcg tcaacaccgc tcaggcggcg aatatatcca cccttttaca ggccatcaac 780  
 atcgcgggca aactaaaaa attcagcgcc aactttaatg gtgcccact cacttcaaac 840  
 aacatccagc aggcgctccg agcgacagga tcaaacacat caatcagcat gaactccgca 900  
 caatccgcca accaaagcac tctacttgaa cttctagaca tagcaagttc cagcaagcaa 960  
 ttccaagcca attacaacgg tggcatgtct aatccgaaca acctacaaca gatagttttc 1020  
 ccgtgcaggc gccagtacaa ccgtgtttat ttccgacgca caaggcctac caatcgcaaa 1080  
 tatecttacc cttatatcat ctgccggatg agacttatag ccgtggatga aaacacacca 1140  
 tccacggcta taccctag 1158

<210> 13  
 <211> 1482  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 13

|             |             |            |            |             |             |      |
|-------------|-------------|------------|------------|-------------|-------------|------|
| gtgcagtgga  | ctcacgaaca  | gtcaccgata | atccagtcga | aggcaccgaa  | gatcctgggtg | 60   |
| cgagccttcg  | caggcactgg  | caaaactacc | accctgggtg | gctttgccag  | gtcgaaccct  | 120  |
| accctgagaa  | tcctctatct  | ctgctacaac | agctcggtgg | agaaagccgc  | gaagggcaag  | 180  |
| tttccccgca  | acgtagtgtg  | caagaccgcc | cacagtctgg | ctcatgcggt  | gtacggcatt  | 240  |
| cagtacgccc  | acaagaagac  | gaagaacctg | cgactgaccg | atatcgcccc  | cggactcgat  | 300  |
| acccaagact  | gggagttggt  | acgtgacgtg | ctggccacgc | tgaacaacta  | catggccagc  | 360  |
| gccgacgcgg  | aactcggccg  | accgcacttc | ccgcgcttcc | gcgacaaggc  | gttcctcacc  | 420  |
| agtgtctcagg | aacgcttcct  | caagcagggc | ctggacatgg | cgcgagtagt  | ctggaggcgc  | 480  |
| atggctgata  | tccaggacac  | cggcatgctg | atgccccctg | acggctacct  | gaagctgtat  | 540  |
| caactgagca  | agccccgattt | gagccagcgc | ttcgactgca | tgctcctgga  | cgaggggagc  | 600  |
| gacatcaacc  | cagtgatcgc  | ggacattgcc | cattggcagc | gcatcagaat  | ggctatcgtc  | 660  |
| ggcgatcccc  | atcagcagct  | ctaccggttc | aggggagcag | aagatgccct  | gaacagcgac  | 720  |
| tggatggccg  | gcgcccagga  | gcaactacct | acccagagct | ggcgattcgg  | ccccgcgac   | 780  |
| gcacacgtgg  | ccaacatcat  | cctctcctac | aaggcgaaa  | cacggaaact  | tcaaggactg  | 840  |
| ggtccgcaga  | cgctgggtgaa | aaagtccctc | ccgcgggacc | ttcctcaccg  | cactttcatt  | 900  |
| caccgcaccg  | ttatcggcgt  | catcgagaat | gccctgcagc | tggtccgcaa  | tcattccggag | 960  |
| cccaaattcc  | actgggtagg  | cggtatcgac | agttactcgc | tgccgcgacct | ggaggatctg  | 1020 |
| tacgcattca  | gccgaggcct  | gcgccaaaac | gtccagaaca | agaaactgct  | ccgtgactac  | 1080 |
| cgcgactaca  | cccagtagct  | ggagatcgcc | gagatcagcc | aggacggtga  | gatgcttcgc  | 1140 |
| tcgatcaaga  | tcatatcgac  | ctaccctgat | ctgcctgcgc | ggatccttga  | gcttcgctca  | 1200 |
| ctgacccttg  | acgatgagct  | ggacgcaaca | atcaccctga | ccaccgcaca  | caaggccaag  | 1260 |
| gggctggaat  | gggatttcgt  | ttgcctgtac | gacgacttca | acgcggaccc  | gctggccccc  | 1320 |
| gacaccgacc  | caggcaagcg  | cgacgatgag | ttgaacctga | tctacgtcgc  | agtgaccgcg  | 1380 |
| gcgatgaaga  | tccttgccat  | caacagcctg | gtgctgtcga | tcatgcagcg  | gtacgtggac  | 1440 |
| gacagaaaac  | tgaaggagca  | gatagctagc | tgtaaaaaat | ga          |             | 1482 |

<210> 14  
 <211> 651  
 <212> DNA  
 <213> Pseudomonas aeruginosa

|             |             |            |            |            |            |     |
|-------------|-------------|------------|------------|------------|------------|-----|
| <400> 14    |             |            |            |            |            |     |
| atgttcgggt  | cgctgatcgg  | cgcaatcatc | gtggagtggg | tatgcctgta | tttcttctg  | 60  |
| cctgacgcgg  | gctggaagca  | tgcccaggcc | atgtttgagt | acgaactcag | ttggctgtcg | 120 |
| caggggctgc  | tacacagcgt  | cgctcgtgag | gagccaggtc | gaaccgccac | ctggctggcc | 180 |
| cagttggcct  | atgactgggt  | gttcgtgaag | accgggatgg | tcgactggat | gaccaacatg | 240 |
| actaccatcg  | cgcaggcccc  | gccacggagc | ccgctggacg | ttcgctatct | caccgcccac | 300 |
| ggtgtctcca  | cgctgcagaa  | ctacggcctg | gccgcgctgt | acacggtgct | gacattcgtc | 360 |
| gtgcgcctgg  | tgatcctggt  | catgacgata | ccgttattcg | tgatggccgc | gttcaccggc | 420 |
| ctgggtggacg | gcctgggtgcg | ccgggacctg | cgcaagttcg | gcgccggccg | ggagtccagc | 480 |
| taccttacc   | acaagcgcg   | cggcagcatc | attccgctag | cggtcgtccc | ttggacgctc | 540 |
| tacctggcaa  | tccccatcag  | catcaatccc | ctgctcatcc | tgttgccctg | cgccgcgctg | 600 |
| ctcggcgtag  | cggtatgcat  | cacagcatcc | accttcaaaa | agtacctgta | g          | 651 |

<210> 15  
 <211> 2796  
 <212> DNA  
 <213> Pseudomonas aeruginosa

|             |             |             |             |            |             |     |
|-------------|-------------|-------------|-------------|------------|-------------|-----|
| <400> 15    |             |             |             |            |             |     |
| atgaagttga  | agaattttctt | acagcctttt  | gatagcgggt  | tctccactcc | gagtgtctgcg | 60  |
| ctcaagctgc  | tcgcgatgct  | cgggtggcgcc | ttgatgttgt  | gcgtgctatg | cagcctgata  | 120 |
| ttcagtgatga | gcatggtttt  | aaaccatcag  | gtgtccctca  | gtcggcaagc | tatgaatgtg  | 180 |
| gctatgtacg  | aagcgcagct  | ttatttcgag  | cagcgcgagg  | cgttgctcaa | tcacttgagc  | 240 |
| ggcaatgtcg  | tgcccttggc  | cgcgggtaga  | gcgctcgtca  | acgaagcgcc | gaacaatgtg  | 300 |
| agcatcctgc  | cgttgagtga  | cggagggcga  | ggtctgctat  | tgaccgctcg | cacgctcggt  | 360 |
| gatctccggg  | aaaagcggct  | ggcactgatg  | tatctggtcg  | ataccgaaa  | aggccctctg  | 420 |
| gtttacgggc  | ttaccgcga   | tggtaggccc  | tcggcagcga  | tatccagcac | gataacccaa  | 480 |
| gaggtgtacc  | gagccttgct  | ggcgactccg  | tcggcgccctg | ttcactgggt | gactgacggt  | 540 |

|             |             |             |            |            |            |      |
|-------------|-------------|-------------|------------|------------|------------|------|
| ggtaccctc   | aacggctgta  | cctttttgaa  | tccttaggcg | atgagccggg | cgaggggtgg | 600  |
| ctaggcctgg  | agattctcgg  | cgaagacctc  | gattcgatgt | tgcgccggaa | tgatgccgga | 660  |
| aactacatgc  | tgctggatca  | gcatgggcag  | gtcgtactcg | ctacggacgc | agaggcgctg | 720  |
| gggagcggtg  | cgtcgcggac  | gctttttgct  | ggagacggct | tcggtttcat | cggtgctggc | 780  |
| ccactgccgc  | agcatatggt  | gctttttccag | cacgtggggt | cttcgagctg | ggatctgac  | 840  |
| tatcacatcg  | gtatcggctcg | cctgttgctg  | gctctgtggc | tccctctgtt | acttgccctc | 900  |
| gcgttggcac  | tcgcagtcgg  | cctcctactg  | cattggctgg | tgcggagcat | cgagcgacgc | 960  |
| ttgatagagc  | ccgcaaagcg  | acgccttgaa  | gcattgaagg | agagcgaagc | cttttcccg  | 1020 |
| gcagttatcc  | aggccgcgcc  | cgtcgcgctg  | tgcgtgctgc | gtcgtgccga | cgccgcagtg | 1080 |
| gtcctgga    | atccccaggc  | gcgccaatgg  | ctgggtgata | gcgaggcgat | tgcccacgac | 1140 |
| gcgccgagat  | ggatttccca  | ggcgttcgca  | ggaggtgtga | agtgttctgg | agaagaactg | 1200 |
| gaaaccgagg  | cagggctaca  | tcttcatctc  | aattacacgc | ccaccgcgta | taacggtgaa | 1260 |
| gacgtattgt  | tctgcgcctt  | cagtgaatc   | agtgcacgca | agcggatgga | ggcggaactg | 1320 |
| gctcgcgcaa  | aatccctggc  | ggatgctgcc  | aatgaagcca | agacgctgtt | tctcgccacc | 1380 |
| atgagccatg  | aaatccgcac  | acctctgtac  | ggcatgcttg | gcacgcttga | gctgcttggg | 1440 |
| cgtaccgagc  | tgagtcggca  | gcaggccggg  | tacctaaagg | caatccagca | ttcctcgctc | 1500 |
| accctgctgc  | aactgatcag  | cgatgtgctt  | gacgtatcca | agatagaggc | cggccaactg | 1560 |
| gacctagagt  | gcgtggaatt  | ctccccgctg  | gaattgaccg | aagaggctcg | gcagtcgttc | 1620 |
| accggtgccg  | cgcaggccaa  | ggggctgcag  | ttgtatacct | gcctctctgc | ggagctgccg | 1680 |
| ctgcgcacgc  | ggggggccgc  | ggcgctgcac  | cggcagatc  | tcaacaacct | gctgagcaac | 1740 |
| gcggtgaagt  | tcaccgacaa  | tggctatgtc  | aacgtccacc | tgaaggccag | cgtggtcgat | 1800 |
| gccgaatgtg  | tgatgctgac  | ctggcaggtc  | aacgataccg | gcattgggat | caacgtcgag | 1860 |
| gatcagccgc  | gtctgttcga  | accgttctac  | cagatacgcc | gctccgagca | tccggtcgca | 1920 |
| ggcacggggc  | tcggcttgct  | gatcagccag  | cgcctggcgc | agctaatgaa | tggcagtctg | 1980 |
| aaactggcca  | gtgagctggg  | gttgggcagc  | agctttagcc | tcaggcttcc | gcttgagcgg | 2040 |
| atcgcgatgc  | aggctgagcc  | gcaggacctc  | gccgggtgcg | ccgtccaagt | gctggcgctc | 2100 |
| gtccgcgacc  | taacggaatg  | cctgtgtggc  | tggatctccc | gctggggtgg | aagggccatg | 2160 |
| gtcgcgacgc  | cgaggctcgt  | ggacgaggcg  | gacgcgacct | cgctgctggt | caaagtgtta | 2220 |
| ctgctggagg  | gggcgcgcg   | gttcgaagca  | tggccaggat | gccgggtgga | gctttcccct | 2280 |
| caggggtgata | tggagccgca  | ggcacagggc  | cgcgactggc | tgctcgggct | caacaacctg | 2340 |
| aacggcctgc  | atcgtgctct  | gggcctggcc  | catgggcgtc | tcgctgatcc | ttcgacgccg | 2400 |
| cggatacggc  | tggtctcggt  | gcgcaatcta  | ggtctccgcg | tcctagtggg | ggaggataac | 2460 |
| gcgatcaacc  | agttgatctt  | gagggaccag  | atggaagcgc | tgggctgcag | cgtggagctg | 2520 |
| ctcttcgatg  | gtcgcgagcc  | gttgctgcac  | ctgcagacgg | cctgcttcga | cgtggtgctc | 2580 |
| accgatatca  | acatgccgaa  | catgaacgga  | tacgagctaa | ccgcggagct | acggcgccaa | 2640 |
| gggttccggc  | agccgatcat  | cggcgcgacg  | gtgaacgcca | tgcgtgagga | gcgcgagcgc | 2700 |
| tgcattgtccg | ccgggatgaa  | cgattgcctg  | gtcaaaccgg | tggatctgaa | tgcccttcag | 2760 |
| aactgcttga  | ttaatattct  | caaggtggat  | cgatga     |            |            | 2796 |

<210> 16  
 <211> 1200  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |             |             |             |             |            |     |
|------------|-------------|-------------|-------------|-------------|------------|-----|
| <400> 16   |             |             |             |             |            |     |
| atgagctgga | aatcctatcg  | ggtgctggtg  | gtcgaagatc  | agccgtttca  | gcgcgaatac | 60  |
| ctgctcaacc | tgtttcgcga  | gcgcggcgctg | cagtacctgg  | taggtgccgg  | cgacggcgcg | 120 |
| gaggcggttg | gctgcctgaa  | gcaggacagg  | ttcgacctga  | tcctcagcga  | tctgatgatg | 180 |
| ccgggcgatg | atggtatcca  | aatgatcctg  | caactgccgt  | atctcaagca  | tcgtccgaag | 240 |
| ctggcgctga | tgagtcctc   | gtcgcagcgg  | atgatgtcga  | gtgccagccg  | ggtcgcccag | 300 |
| agtctcggtc | tgctcgtaaat | cgacctgttg  | cccaagccga  | ctctgcccaa  | ggccatcggc | 360 |
| caacttctgg | aacacctgga  | aagatgcctc  | aggcagaagc  | tggagccgga  | aaccgacgag | 420 |
| actccgcatg | ggcgcacggc  | gttgctggat  | gccctgcata  | acgagcaact  | ggtgacctgg | 480 |
| ttccaggcta | agaaatccct  | ccacaccggg  | cgcatagtcg  | gcgccgaggc  | gttgatacgc | 540 |
| tggagccacc | cgcagcatgg  | cctgttgctg  | cccagctggt  | tcattgagtga | tgctcgacgt | 600 |
| accggtctgc | acgaggcggt  | gctctggcgc  | gtgctcgaac  | agacctgaa   | cgcccaggaa | 660 |
| tcgtggcgca | gggcgggtta  | cgagattccg  | gtttcgggtga | atctgccgcc  | gcacctgtc  | 720 |
| gataaccagg | aacttcggga  | tcgactctat  | gagtacgtcg  | gcgctcgccg  | ggcttgatcc | 780 |
| agctcactat | gttttcgagtt | gaccgagagc  | agtgtcacaa  | ctctgtcaag  | taactactat | 840 |

|            |            |             |            |            |            |      |
|------------|------------|-------------|------------|------------|------------|------|
| gcaggtgcct | gtcgtttgcg | catgaaaggg  | ttcggatttg | cccaggacga | ctttggccag | 900  |
| ggttacagct | cgttctataa | cctgggtcacg | acgcctttca | cggagctgaa | gatcgaccgc | 960  |
| tccctagtc  | agggatgcgt | agaggataac  | ggcctcaatg | cagctgtcat | cagttgtatt | 1020 |
| gagttgggtc | accgcctgaa | tctcgacgtg  | gtggccgaag | gcgtggagac | ctgcgaggaa | 1080 |
| ctgaatcttc | ttcgtcgtct | tggtgcgac   | cgggcgacgg | gtttcctgat | ttctaaggca | 1140 |
| gtgtctgctc | gtgagttcga | gcggcagtta  | agggaggacg | gccccagcct | ccttgtttaa | 1200 |

<210> 17  
 <211> 3255  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |             |             |             |             |             |      |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| <400> 17    |             |             |             |             |             |      |
| gtgaagtctg  | ctagtgcctt  | ggagcacgac  | aacaaacttt  | tgctcaaattg | gacaaccctc  | 60   |
| tcgcagagcc  | tgagcatcgg  | cttgatctgt  | gtggtgggtg  | tgaccgtatt  | gctgttcagc  | 120  |
| atctgttact  | ggtcgctggg  | gagattgttt  | caggaggagg  | aggacaaagt  | ctccttccac  | 180  |
| ttcacccgta  | tgatggatgt  | tatacgggag  | catgaggtat  | ttcttgggcg  | catcgctcga  | 240  |
| aaaagcgaca  | agaccaccca  | gaagtacgac  | tatgacgtgg  | tgcccttgca  | gcggcacttg  | 300  |
| ttggcaaagg  | aaaacggatt  | agcgggtctat | gagggacggg  | agttttcctt  | tgctatgcc   | 360  |
| tttctactgg  | ctaccaagca  | cgcgttgagc  | gccgattcct  | cgggagatcc  | gttttcgctc  | 420  |
| ggtgtattgc  | tcgccaat    | ctacggaagc  | ttctggagt   | tttccgccta  | tcccgcgcca  | 480  |
| cagttactga  | tctttgatct  | ttccggcagc  | accgcctgg   | cagtgcctgc  | gattccctcc  | 540  |
| acagcgcagc  | gtgacagggt  | gagcgggaagc | tatccgatga  | tagtcgagcg  | cattctggcg  | 600  |
| cgcttgcgca  | cccggccggg  | gggggaggac  | gctcagcgtg  | tccattggat  | acgcgctgat  | 660  |
| cgctatcgcg  | actcggcgct  | ggagatgttg  | ggagtgcgcc  | gggttgatct  | gccggaacaa  | 720  |
| ctctggtggc  | acgacgagcc  | gaaccatctg  | atcatcgctg  | cgagcctgct  | tgatctcagg  | 780  |
| cgaatcaatg  | acttcgaaca  | gttgggtgag  | cgcccgcat   | tcgattcgta  | cagcctggta  | 840  |
| tcgcccggatg | gcgaggtatt  | gctcggcgcg  | gcccctgcga  | ccggcctgag  | ggatggcctg  | 900  |
| aacctcacc   | gacaggggg   | cgccgttcaa  | ctgctcagcc  | agcctgagaa  | cggttggtc   | 960  |
| gcggtctacc  | gaaccgacta  | cggcaatttc  | tttcgccact  | cccgggtggc  | ggtggcagg   | 1020 |
| ctgctgctga  | ccccggcgct  | gctcctggcc  | ggttggtcgc  | ggatgcgttg  | gtacaccagc  | 1080 |
| agcgtcgta   | accgggtgca  | tcgggcgcac  | cggcaactgg  | tgagagcgca  | caccttcagc  | 1140 |
| cggacgctga  | tacagaccgc  | gccggtggct  | ctggtggtgc  | tgaccaggga  | tgaccgcaa   | 1200 |
| ctggtgacct  | gcaaccactt  | ggccgcccag  | tggtggtggc  | ggccacgga   | gatccttggg  | 1260 |
| ctgacttcca  | actggaagct  | tttcgatgcg  | cgtgggcagg  | taccaggaga  | catctgtatc  | 1320 |
| caggtcggtg  | ggcgctat    | gcagaccgcc  | ttcgcggcga  | cccgcctatgc | cggcaccgag  | 1380 |
| gcggtactgt  | gcgtattcaa  | cgacatcacg  | gtccactgcg  | aggcggagac  | cgcgctgtcc  | 1440 |
| aatgcgaagc  | gagcagcgga  | tgccgcagc   | caggccaaga  | ccctgttcct  | ggcccgcctg  | 1500 |
| agccatgaaa  | tcggtactcc  | cctgtacggg  | gtccttggca  | ccctggagtt  | gctcgacctg  | 1560 |
| accacctga   | acgagcggca  | acgcgcctac  | ctacgcacca  | tccagagttc  | gtctgcagcg  | 1620 |
| ctcatgcaac  | tgattagcga  | tgtgctggat  | gtctcgaaga  | tcgaagcggg  | gcagatggct  | 1680 |
| ctgaccctgg  | ccgccttcaa  | tccgctggac  | ctagtgcggg  | aagtgccttg  | caactttgcc  | 1740 |
| gccagcggca  | tgcccaaggga | cctgcagttc  | tatgcctgca  | tcgacaccga  | agtgcggcg   | 1800 |
| caactgatcg  | gtgacgtgac  | gcggattcgc  | caggtgctca  | ataacttgg   | gaataacgcg  | 1860 |
| ctgaagttca  | ccgatatcgg  | acgggtgggc  | ctgcgcgtga  | agttgctctc  | ccgcaatgat  | 1920 |
| ggtcgagccc  | tggtgcagtg  | gcaggtcgcc  | gacaccggta  | tcggtatcgc  | acacgaacag  | 1980 |
| caggagcgct  | tggtcgaggc  | gttctaccag  | gtttcgggag  | cgcaccatgc  | cggcggcacg  | 2040 |
| gggctaggac  | tgctgatctg  | ctggcatctg  | gcggaaatga  | tggcggtca   | cctgcgaatg  | 2100 |
| gtcagcgaga  | cagggctcgg  | cagcagcttc  | agcctggtgc  | tcgagttgcc  | cgaggacgaa  | 2160 |
| cagtccgggc  | tggttgcgg   | gccggggctc  | ttgaaatccg  | cttgctcca   | tgtgcgctcg  | 2220 |
| cccgtgcggg  | agctagccga  | cagcgtaggg  | gcgtggctga  | aagcctgggg  | ctgcaaggctc | 2280 |
| agcagcggcg  | aggcggcgcc  | ctccgagctg  | gagacttggt  | tgcttctgga  | gctgctgccg  | 2340 |
| atggcgccg   | ggcctgcttc  | ttcgccctgg  | ccaggccccc  | gggtgcgcgc  | gtccatggat  | 2400 |
| gcgccttgcc  | agccggagct  | gcgtgaggac  | ggctggcggtg | tcggcctgca  | caacctggcg  | 2460 |
| ggaatcggcc  | aggccctggc  | gcaggtctctg | ggtggcgata  | tccccgagca  | aacgcgggca  | 2520 |
| aatgcctgcg  | ccgcctcggg  | gagactcgac  | ctggaagtgc  | tggtcgccga  | ggacaaccca  | 2580 |
| gtcaaccagg  | cgctgcttcg  | cgagcaactg  | gaagagctgg  | gttgctcgctg | gagccttgcc  | 2640 |
| ggcgatgggc  | ggcaggccct  | gcagctgttc  | gacagtggtc  | gcttcgacct  | cctgctcagc  | 2700 |

|            |             |             |            |             |            |      |
|------------|-------------|-------------|------------|-------------|------------|------|
| gacgtcaaca | tgccgaacat  | gaccggctac  | gaactgaccc | agggcgctgcg | cgaacgaggg | 2760 |
| gagacgctgc | cgatcatcgg  | cgtgaccgcc  | aacgccctgc | gagaagaggg  | cgagcgctgc | 2820 |
| cgggcagtg  | gaatgaacag  | ttggctggtg  | aagccgatca | ctctgcatac  | cttgcatgaa | 2880 |
| ctgctcagtg | agttcgctcg  | cgcaggtgtc  | gtgcttccc  | cgcaagcgcg  | agacctcggc | 2940 |
| ccgcccgcgc | agctcgacga  | cggctctctca | ccgcaggtgc | cggaacgcat  | gcgcgcgctt | 3000 |
| ttccttgaga | ccatgggcaa  | ggacctggag  | gccgccgggc | aagcgattcg  | ccgcaacgac | 3060 |
| ccgaaggggc | tgcagcagga  | cctgcacgc   | atggccggct | ccctggcggt  | gatgcgtgcg | 3120 |
| cgaacgctgg | tggatgatgtg | tcagggcgcc  | gaggaaggcc | tgctggagtc  | gcgccttgaa | 3180 |
| tggtccgccc | tggagattgg  | cgaggtgtc   | gttcatatcg | agcaggcgct  | ggagtttgtg | 3240 |
| agaaagacgg | gctga       |             |            |             |            | 3255 |

<210> 18  
 <211> 696  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |
|------------|------------|
| <400> 18   |            |
| atgcgtccgg | ggtcaatagt |
| atagtactgg | ccgatgacca |
| gacggctcgg | tcgaggtgg  |
| cggcagagcg | agccgcatat |
| ggcgatggac | tgaactgat  |
| atcttcacca | tggctggcaa |
| ggcgtggtgc | tgaagagcgg |
| cagaaccggc | tctaccgggg |
| gacgaagtgg | aaagccgctt |
| ttcgtttccg | gcagcaacgt |
| gtaagcacgc | agaaggtctc |
| atgaccttct | gcgtgcatgc |
|            | caacttggtc |
|            | cattga     |
|            | 696        |

<210> 19  
 <211> 717  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |
|------------|------------|
| <400> 19   |            |
| gtgtccagta | agatcctgct |
| gacgcccag  | ccggagtcac |
| gagacgtgc  | tgctgctggt |
| gacgatggcg | ccccgaactc |
| ccggtgttcc | gcctcgaaac |
| gcgctgccag | gggaccgcga |
| gccaccgggc | tgctggccga |
| aaagtcattc | accgccctcg |
| agggttcgag | ggcggggcga |
| ctcgccggcg | ccgagcttgg |
| ttctccaggc | gcgtcctggc |
| ttcagctgga | tcgatgacgg |
|            | cggcaatctc |
|            | cagcagggac |
|            | ggagcctgct |
|            | tcactga    |
|            | 717        |

<210> 20  
 <211> 1347  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |             |
|-------------|-------------|
| <400> 20    |             |
| atgaaaacat  | ccctgcgcgt  |
| gcgacctgct  | acaaggtcac  |
| cgtcccgggtg | aaggctctgc  |
| ctcgggtctac | cgagcggtgat |
|             | caacgtcagc  |
|             | gacgccagct  |
|             | tccagcccga  |
|             | cggtagcttg  |
|             | 240         |

|             |            |             |            |             |             |      |
|-------------|------------|-------------|------------|-------------|-------------|------|
| atcgccagct  | cggtggcgcc | gctcagccaa  | tacggcgaca | gcgccggcta  | cgacccagag  | 300  |
| cgcggtgttct | tccgctgtgc | tccagaggac  | gatgtgtacg | agatgtttctc | caccaatgcc  | 360  |
| gacgatctct  | acagcggctg | gtacctagga  | ggcgacagt  | cgggcaactc  | gattggcctg  | 420  |
| cagtccgcct  | atcgccaccg | ctggcccaac  | gtgctgctgc | gcctaaccce  | cgtggaaacc  | 480  |
| gggcagttatt | tcaccgatgt | ctggcgcgag  | cgtctgctcg | gcgggctcga  | tatcgactcg  | 540  |
| cgaggctttc  | aactggtcaa | ggcgaagaac  | ctcagcgcg  | tacgcgccga  | actgttccgc  | 600  |
| gctccgctgg  | agttcatccg | ctactactcg  | ccgactaccg | cctcgcggtt  | gtacgcctac  | 660  |
| acccagccc   | ctggctacat | cgccatcaag  | ggccccggcc | tgccctaccc  | caacgtcggc  | 720  |
| gccagccata  | acgccaacta | cctcggtcgg  | cactacaact | ggccggggcg  | catcggcctg  | 780  |
| tacaacgacg  | tgacgctcaa | gcgctatccc  | acctgttccg | taaccaacgt  | cacgccccac  | 840  |
| gttgtgttcc  | cgtcgatttc | cctcagttag  | attaatgccg | gcgcgaaccg  | tgagatgccc  | 900  |
| ttcgaggtgg  | ccttcaagt  | ccaaacggga  | gtgatcaaca | gcaccgcctc  | cagcgggtact | 960  |
| gcactgggta  | tcagggcttc | agccggggcg  | caggccgcgt | ccgctgcact  | gggcctgagg  | 1020 |
| aacgccaatg  | gcgggctctc | ctacctagtt  | tccgaccgct | acggccagcc  | tggtatggcc  | 1080 |
| caaggcgtgg  | gtatccgctt | gctgcgcgac  | ggcagtgcca | tgaacctgct  | ggtaagcgag  | 1140 |
| gattccgcga  | tgggcagcaa | tgccgaaaca  | cggggctggt | atccagtgat  | cggcaacgcc  | 1200 |
| tcgaacaaga  | ctggcgaagc | gggagggcatc | agccagtaca | gcgagacctt  | ccgtgcgcgc  | 1260 |
| ctggaaaaac  | tcacggttgg | cagcatgccc  | agcgttaccc | cgggacgggt  | ggaggccagc  | 1320 |
| gcgcaggtag  | tgattcgtgt | ccagtaa     |            |             |             | 1347 |

<210> 21  
 <211> 2613  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |             |             |             |             |             |      |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| <400> 21    |             |             |             |             |             |      |
| atgtttctgcc | acgtttgagge | acggcgccacc | ggcaaaactgc | cgctgggtctt | gggcggccta  | 60   |
| gcgctggcct  | tcgcggggcct | ggccaatgga  | gaggcgagct  | atcgtttctga | cgacagcctg  | 120  |
| ttgatgggct  | cgggcctcgc  | cggcgggacc  | ctagaacgct  | tcaaccgggc  | caaccaggtg  | 180  |
| gaccccgga   | cctaccatgt  | cgatgtctat  | ctcaacggca  | gctacgccag  | tcgcaccagg  | 240  |
| atcgagttcc  | gcccccgggc  | cggcggcgctc | aaacctgtct  | tcggcgaaacg | cttcttgccg  | 300  |
| cggacgctgg  | gcgtccgccc  | cgctctgag   | gcccggcgctc | aagcgccctg  | agattgcctg  | 360  |
| gggctggaag  | aacgcctgcc  | aggctcgacc  | ttcaatctcg  | acaccgcctt  | tctgcgctc   | 420  |
| gatctctcgg  | tgccccaggc  | cctgctggat  | atcaagccac  | gcgggtacgt  | gggtcccgc   | 480  |
| gagtgggacg  | ctggcagtag  | catgggcttc  | gtcaactacg  | acgccagctt  | ctatcgctcg  | 540  |
| agcttcgacg  | gagtagggcg  | caacggcgac  | tcggactatg  | gctacctggg  | gctgagcggg  | 600  |
| ggcatcaatt  | tcggcctgtg  | gcgcctgcgc  | caccagtcca  | actacagcta  | ctccagctat  | 660  |
| gcgggaaaca  | ccgcgagcga  | ctggaacagc  | atccgcacct  | atgccagcg   | cgcggtgcc   | 720  |
| ggcctgcgca  | gcgaactgac  | cctgggcgag  | agcttcaccg  | agggcaatct  | gttcggcagc  | 780  |
| ctgggttate  | gcggcggtgc  | cctggccagc  | gacgaccgca  | tgctggcaga  | ctcgcaacgc  | 840  |
| cgctatgctc  | cacaggtacg  | cggtagacgc  | aacagcaacg  | cacgggtggt  | catcagccag  | 900  |
| aacggcaaga  | aggtccacga  | atccgcgctc  | gctcccggtc  | ccttcgtcat  | caacgacctc  | 960  |
| tatggcaccg  | cctacgacgg  | cgatctggat  | gtccaagtga  | ttgaggccga  | cggcagcgctc | 1020 |
| tcgcgctttt  | ccgtgccctt  | ttccgcgggt  | ccggaatcca  | tgcgcccggg  | catctcgccg  | 1080 |
| tacagcgcca  | ccctcgccca  | agcgcgccag  | tatggcgacg  | gcaacgacct  | gttcggcgac  | 1140 |
| ttcacctatc  | agcgcgccct  | gaccaactcg  | ctaaccgcca  | acctcggtc   | gcgcctggcc  | 1200 |
| gaggactatc  | tggcgctgct  | cggcggaggc  | gtgctcgcca  | cgccctacgg  | agccttcggc  | 1260 |
| ttcaacagca  | ttttttccca  | tgccacgggtg | gagaacggcc  | agcgcaagca  | gggctggcgt  | 1320 |
| gtcggctctga | actacagccg  | gaccttccag  | ccgaccaga   | ccactctcac  | cctggctggc  | 1380 |
| taccgctatt  | ccaccgaggg  | ctatcgcgac  | ctcgccgacg  | cgctttcggc  | gcgccacgcc  | 1440 |
| gatgagcaca  | acgactcctg  | gaactccagc  | agctacaagc  | aacgcaacca  | gttcaccctg  | 1500 |
| ctggtcaacc  | agggcctggg  | gggtacggc   | aacctgtatc  | tgtccggagc  | caccagcgac  | 1560 |
| tactacgacg  | gcaagagccg  | cgacaccag   | ttgcagttcg  | gctacagcaa  | cacttggcgc  | 1620 |
| cagctcagct  | acaacctcgc  | ctattcgcgc  | cagcagacca  | cctggtaccg  | cgatctgaac  | 1680 |
| gacgactacg  | acccgtcact  | gccgcgcaa   | tacaacctgc  | ggcacggcag  | cgaacgtagc  | 1740 |
| aacaccttaa  | ccctgacact  | ttccatgcgc  | ctggggctct  | ccagccaggc  | cccgaatctc  | 1800 |
| agcgcgatgg  | cctcccgggc  | ttccggcgac  | agcccgggca  | gcagctacca  | gacgggctc   | 1860 |
| aacggcacc   | tcgacgaaga  | ccgcagcctg  | agctacgcga  | ttgcccgccg  | gcgcgacagc  | 1920 |
| gacaaccacg  | gcagcgattt  | caacggcag   | ctgcagaaac  | agacctcggt  | ggcgacgctg  | 1980 |



|            |            |             |             |            |            |      |
|------------|------------|-------------|-------------|------------|------------|------|
| aacgccggct | atgccgagaa | cagcagctac  | cggcagctca  | acaccggcct | gcgcggcgcc | 2040 |
| gccgtgctgc | atcgcgccgg | cctgaccctc  | ggcccctacg  | tcggcgacac | tttcgccctg | 2100 |
| gtcagggcca | agggcgccag | cggagctggc  | gtacgcggtg  | gtcagggcgc | gcgcgtcaac | 2160 |
| ggcaatggct | acgccgtggt | gccatcactc  | tcgccctacc  | gctacaaccc | ggtcagcctc | 2220 |
| gatccgcagg | gcatggggca | agaggccgag  | ctgctggaga  | ccgagcgcaa | gatcgcgcca | 2280 |
| tacgccggcg | ccgccgtgca | tgtgaagttc  | cgcacactga  | ccggtcacc  | attgctaate | 2340 |
| caggcccaac | tcggcgacgg | cagcgcgcta  | ccgctagggg  | ccaatgtgct | cgacagccag | 2400 |
| ggtgtgaaca | tcggcatggg | cgggtcaaggc | ggccagggtct | atgcccgcg  | cgagggcgac | 2460 |
| aagggccgcc | tgcgcgtgca | atggagcgaa  | cgcccagggg  | acgcctgtct | gctggattac | 2520 |
| gacctcgaca | ctggccctcg | ccaggctatc  | gaaccgggac  | aggcggtgat | ccgcctgcag | 2580 |
| ggcacctgca | cgcccgtctc | ggaggcacca  | tga         |            |            | 2613 |

<210> 22

<211> 747

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 22

|            |             |             |             |             |             |     |
|------------|-------------|-------------|-------------|-------------|-------------|-----|
| atgaatactt | ttccactgcc  | tccgctccgt  | gcggctacgc  | tggcgctcgc  | cctgctgata  | 60  |
| cccgccatcc | cggctcaaag  | cagcgtgggtg | atcatcggtg  | ctcgcgatgat | ttatcccggc  | 120 |
| gacgcccggg | aaaagaccgt  | gcagatgatc  | aatcaggacg  | cattcccca   | cgtgatccaa  | 180 |
| gcctggatcg | acaacgacga  | cccctcctcc  | accccgagga  | ctgcaaacgc  | gccctttctg  | 240 |
| gtcagcccag | cggtgacgcg  | catagccccc  | ggcagcggcc  | agaccctgcg  | cctcctgtat  | 300 |
| accgggctcc | cgtcgcccga  | ggatcgcgaa  | tcgttggttc  | atctcaatgt  | gctgcagatc  | 360 |
| ccgcccgcg  | acctggccaa  | ggccgagcgc  | aaccagatgc  | tgctgatgca  | gcgcagtcga  | 420 |
| ctgaagctgt | tctatcgccc  | cgcgcgcgtg  | cttgccgggt  | cggagcagct  | agtcgagcag  | 480 |
| ttgcaactca | gcctgggtgca | ggcgagcggc  | aactggcggtg | tgcgggtgga  | caaccccagc  | 540 |
| ggctactacg | cctccttcgc  | cggcgcgatg  | ctgagcatcg  | gcgaa'cgctg | ctggcggctg  | 600 |
| ctgtcgagca | tgggtcccgc  | caaaggccag  | gcgagtggtg  | cggcggaacg  | cccttcgccg  | 660 |
| ctcgccccag | gaccgggtcca | gttgaacgcc  | ctcttgatca  | atgactacgg  | cgcgcgaaatg | 720 |
| gaggtccagc | atgttctgcc  | acgttga     |             |             |             | 747 |

<210> 23

<211> 549

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 23

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| atgaaacctc | aaagtactgc | cctgactatc | gccgcatttc | tcgcattgcc | gggtatcgcg | 60  |
| gcggctgcca | ataccatcac | cttccacgga | gaagtgaccg | accagacctg | ttccgccgtc | 120 |
| gtcgacggac | gaaccgaccc | gaccgtgata | ctcgacaccg | taccggtaag | cgctcttgac | 180 |
| ggcgcgatcg | gcaaaccgcg | cggggaaacc | agcttcaccc | tgcaactgac | cggttgcgcc | 240 |
| gctccggcgg | ccgatgccga | ggagcacttc | agcgtgatgt | tccaggcggg | caatccgacc | 300 |
| agcgccggca | atctgaccaa | taccgcgtcc | gccggcgcca | ccggcgtagc | gctgcagcta | 360 |
| ctgacggcac | cgggcggcag | cgaggtcaat | ctggccggcg | ggtcggccgt | ggctgccggg | 420 |
| gacatcgctg | tcgcaggagg | cgagaccagc | accagctacg | actatgccgt | ccgctacatc | 480 |
| tccgaagcga | ccaccgtcac | tccgggaccg | gtgctcgggt | cggtgacctg | caccctgcgt | 540 |
| tacgagtaa  |            |            |            |            |            | 549 |

<210> 24

<211> 266

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 24

|            |            |             |            |             |             |     |
|------------|------------|-------------|------------|-------------|-------------|-----|
| agtccgcacg | gtagtgcga  | ctggaagcgc  | ttctgtgctg | ccaacaacct  | ggagcccagc  | 60  |
| atgagccggc | gcggcaattg | ttgggatatg  | ccgtggcgga | atccttcttc  | agtagtttga  | 120 |
| agaaagacgc | tatccgcaaa | cgcattctaca | aaacccgaga | catggcccgc  | gcgcatgttt  | 180 |
| ttgactacat | cgaggtcttc | tacacccgaa  | cccggcgga  | cagtcattctg | ggtggcgctca | 240 |

gtccccgaggc ctttgaaagc gcctcg

266

<210> 25

<211> 747

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 25

|            |             |             |             |            |             |     |
|------------|-------------|-------------|-------------|------------|-------------|-----|
| atggctgaag | tcaactcaacg | agcagagcag  | caacaagaga  | gccagaagac | ccttctcggc  | 60  |
| accatcatca | gtacgccctt  | ccaattttctc | ggcgtgatgt  | tcgggtcgct | gatcggcgca  | 120 |
| atcatcgtgg | agtgggtttg  | cctgtatttc  | ttctggcctg  | acgcgggctg | gaagcatgcc  | 180 |
| caggccatgt | ttgagtacga  | actcagttgg  | ctgtcgcagg  | ggctgctaca | cagcgtcgctc | 240 |
| gtgcaggagc | caggtcgaac  | cgccacctgg  | ctggcccagt  | tggcctatga | ctggttggtc  | 300 |
| gtgaagaccg | ggatggtcga  | ctggatgacc  | aacatgacta  | ccatcgcgca | ggccggggcca | 360 |
| cggagccccg | tggacgttcg  | ctatctcacc  | gcccaggggtg | tctccacgct | gcagaactac  | 420 |
| ggcctggccg | cgctgtacac  | ggtgctgaca  | ttcgtcgtgc  | gcctggtgat | cctggtcgatg | 480 |
| acgatcccgt | tattcgtgat  | ggccgcgttc  | accggcctgg  | tggacggcct | ggtgcgcccgg | 540 |
| gacctgcgca | agttcggcgc  | cgcccgaggag | tccagctacc  | tctaccacaa | ggcgcgccggc | 600 |
| agcatcattc | cgctagcggg  | cgtcccttgg  | acgctctacc  | tggcaattcc | catcaacatc  | 660 |
| aatcccctgc | tcatcctggt  | gccctgcgcc  | gcactgctcg  | gcgtagcggg | gtgcatcaca  | 720 |
| gcatccacct | tcaaaaagta  | cctatag     |             |            |             | 747 |

<210> 26

<211> 2235

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 26

|             |             |            |             |            |            |      |
|-------------|-------------|------------|-------------|------------|------------|------|
| atggctggcc  | agtaccggtt  | ggaagcgctc | ttgcggcctg  | ccgtggagct | ctacaccacc | 60   |
| accgtgtgct  | tcaccgcagc  | cgcgctctgc | atcgtcgcgc  | cgtggacgtt | ctccctcact | 120  |
| ccgtgttcg   | gcatcgtggc  | cgcgctgtgc | ttcgccctggc | tgggtatcgt | gcggctgaag | 180  |
| caggccggcg  | tgggtgctccg | ctaccggcgg | aacattcgcc  | gactgccgaa | gtacacgatg | 240  |
| accagcccg   | agatgccggg  | cagcaacgaa | cacctgttca  | tcggtaaagg | atttcgctgg | 300  |
| acgcagaagc  | atacgcacgc  | cctggcagat | acctacctgc  | cccagttcgc | ctcttacgtc | 360  |
| gagccctcgc  | ccctctacga  | gcgcgcgcgc | cggttggaga  | agcagctcga | gttcgcccc  | 420  |
| ttccccctga  | agctggctgc  | caaagccact | gcctgggacg  | tggcctggaa | ccccgcacgg | 480  |
| ccgtgcgcgc  | ccgtgggcgg  | tttgccctcg | ctccatggca  | tcgagccgcg | cgaacaggac | 540  |
| gtaggccctgc | aactgggcga  | gcgcgtcggc | cacacactgg  | tactcggcac | cacgcgggtg | 600  |
| ggtaagacgc  | gcctcgcgga  | gctgttcac  | acccaggata  | ttcgccgcac | tactgcccgg | 660  |
| gtacgacgcc  | ggcgggtgaa  | gatgggcggg | cggaccacga  | cggttcacca | cggctatcgg | 720  |
| cgcgcgcgcg  | cagaggagca  | gccggactac | gaggtggtga  | tcgtcttcga | cccgaaggc  | 780  |
| gacgtgacc   | tgctgaagcg  | tatgtacgtg | gaatgcgaac  | gtgccggccg | cctggacgag | 840  |
| ttctacgtgt  | tccacctcgg  | tcatcctgac | ctgtcggcac  | gctacaacgc | cgtcggccgg | 900  |
| ttcggtcggga | tctccgaggt  | cgccaccgcg | gtcgcgggcc  | agctctccgg | cgagggcaac | 960  |
| agcgcggcgt  | tccgcgagtt  | cgcctggcgg | ttcgtcaaca  | tcatcgcccg | cgcgctgcac | 1020 |
| gcgctgggta  | tccggcctga  | ctaccagcag | atcctccggc  | acgtcgtgaa | catcgatgcg | 1080 |
| ttgttcgtcg  | aatatgcgca  | gaaatacatc | agcgagcacg  | atcccagggc | ctgggacacc | 1140 |
| atcatccaga  | tcgagggcaa  | gctcaacgac | aagaacatcc  | cgttcaacat | gaaaggacgg | 1200 |
| cccctgcggg  | tcgtagccat  | cgaccagtac | ctgacacaga  | aacgcategc | cgaccgggtc | 1260 |
| atggaaggct  | tgaagagcgc  | cgtgcgctac | gacaagacct  | acttcgacaa | gatcgtggcc | 1320 |
| tcgctgctgc  | cgtactgga   | gaaactcact | accgggcgga  | tctcggagct | tctttcgccc | 1380 |
| aactacgcgg  | acctcaacga  | tccgcggccg | atcttcgact  | ggatgcaggt | catccgcaaa | 1440 |
| cgcgcgcgtg  | tctacgtcgg  | cctcgacgca | ctatcgata   | ccgaggtcgc | cgcgcgggtg | 1500 |
| ggcaactcca  | tgttcagcga  | cctggtctcg | gtagcgggtc  | acatctacaa | gcatggtgtc | 1560 |
| gatgacggcc  | tgcocggctc  | gctcgccagc | ggcaaggctc  | gcatcaacct | gcatgccgac | 1620 |
| gagttcaacg  | agctgattgg  | cgacgagttc | atccccatgg  | tcaacaaagc | gggcgggcgc | 1680 |
| ggcgtgcagg  | tgacggccta  | cacccagacc | atgagcgaca  | tcgaggccaa | gatcggctcc | 1740 |
| cgcgcgaagg  | ccggtcagat  | catcggaac  | ttcaacaacc  | tggtcatgct | gcgggtgcgc | 1800 |
| gagaccgcga  | cggccgaact  | ccttaccaat | cagctcccca  | aggtccagat | ctacaccagg | 1860 |

```

acgccggcga gcgggcgccaa cgacgcgata aacaacaaca agaaggtagc cttcacctcc 1920
agctcgacag accaggtgca gatgaccagc gtgccgatgc tcgagccggc ccacatcatt 1980
ggtctgcccc aaggacaagc gttcgcgcta ctcgagggcg gcaatctctg gaagatccga 2040
atgccgctgc cggcggtcgc ccccgacgag gtgatgccga aaagcctgca ggagctggct 2100
gccggtatgc gcaagggcca ggccgccaac agcgagtggg gggaggcgcc gggatactcc 2160
gccctgcagg atggtctgcc ccaggacctg gtcgacgatt tccgtcacct cggcaccggt 2220
gaggatgccg cctga 2235

```

<210> 27  
 <211> 258  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

```

<400> 27
atgactactc atctgatcac cctagtcata aagcagccga ggcagctca ggcagccaa 60
ctcatgtacc aggagttgct cggactgata tcacgctacg gcggtgaggt gacgtccaag 120
gccttgaggg acgagtcgac cctctgcgag ctgctggtgc agatgctgcc tgatcatgag 180
gtagagcaag ccaggaaaca ggtgctcgaa cttcatgcca agggccgcct gcaggcgccg 240
gcaagcctga aggtgtaa 258

```

<210> 28  
 <211> 501  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

```

<400> 28
atgaagaagt tccttgccac gctggcattt tgcacggcgt tcgcgactca agcctggggc 60
gccgggctga tcgttgctga agacctcgcc ggcgcctcgg cgctccccta ctaccagggc 120
ctggatccgc agccatccgc ttccgcacca ggacctggcg acctgggcgt ccgtggctca 180
ggtgcgtttc cagttegcct cgcgcgccta tcgccaggac ggggtccagg gcgcgccatc 240
aacgctccag gcctgcaact gctgttcctg gtgcggcgac acacgctgtc tcgaacctgg 300
ctgaaagagc gaggcgacga gcttcgagac ctccaagccg tgggcctggc agtgaacgtg 360
gccagcgaag cgcgcctgac ggaaatccgg gcctggggga aaggacttca gatattgccg 420
gcgcggcgcg acgacctggt gcaccggcta gggctgcagc attacccgc cctcatcaca 480
tccaccgcca tccagcagta g 501

```

<210> 29  
 <211> 582  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

```

<400> 29
atggcaacgt ctgtagttcg agccctccag ttggccaccc tgctggtcct ggtcaacatc 60
gctcaggccg ccgtggatcc accgcccggc tacaagcaaa tcgccctgcc caaaggggtt 120
ccggccgagg tgctctactc ggtcgcgctg accgagagca aggtcctgct gcgcggcgaa 180
tacgttccct ggccctggac attgaacgtc gccgggaaat cttactacta cgcgaccgcg 240
accgcccgtt gcacagcgct actcggcgcg atcaacctct acggggccaa gagcgtcgat 300
tccggcctcg gccaggtcaa catcggctgg aacggacatc gtttctccag cccctgcgag 360
tccctggatc cgtacaagaa cctggacgcc acctccgaca tccgatcga gcagcgggac 420
gccctgtatg catccgcccc gggaagaccg gtggactgga tccaagttgc cggccgctac 480
caccgccccg ccggcgcgcg gcctgcgcgc aaataccgta ggacggtttc ccgccacctt 540
agccaagtgc tcggcgctcaa cctactggtg accaatccat ga 582

```

<210> 30  
 <211> 756  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 30

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| atgatcagaa | ccgtatcgct | cctgtccggc | ctgatgctgc | tgctgagcta | tcccgcagcc | 60  |
| ggccaggagg | cgggcggaag | ccgagaggcc | agcagccaac | tgtccggtag | ccaactcggc | 120 |
| acgctgaaac | aacagacatc | tcagagcgac | ctggcccagg | agtggggact | gaaccaacag | 180 |
| gaatggaccc | gctaccagac | gctcatgcaa | ggcccccg   | gcgcttactc | gcctggtatt | 240 |
| gatccgctga | ccgcgctggg | catcgaggcg | cgatcggcag | aggaacggcg | gcggtatgcc | 300 |
| gatctacagg | tccaggccga | acggcgccgg | gtcgagaagg | aactcgccta | ccagcgcgca | 360 |
| tacgacgaag | ccttcgccc  | cgccatcca  | ggcgagggg  | tgatccgcct | caccgaaagc | 420 |
| agcacagcca | acccgtcggg | cacgccgaac | atgagcccag | cgttgcagag | cagcggggcg | 480 |
| ctggccctgt | tcgtccagga | caactgcacc | gcctgcatcc | agcgggtccg | cgacctgcaa | 540 |
| catgcagaaa | aggagttcga | cctctacttc | gtcggtagcc | agaacgacgc | agagcgagtg | 600 |
| cggcgctggg | caatcctcgc | cggcacgcac | ccgaagaagg | ttcgagcaa  | gcagatcacg | 660 |
| ctcaatcatg | acgagggccg | ctggatggcc | ctaggactgg | gcggagccct | tcccgcctgt | 720 |
| gtacaggagg | tgaacggccg | atggcaacgt | ctgtag     |            |            | 756 |

<210> 31  
 <211> 690  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |            |            |            |            |            |     |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 31    |            |            |            |            |            |     |
| atgaaacgcc  | catcccctgc | atcaatgatt | cttggcctct | gtttgacggc | aatggccggc | 60  |
| ctgctgagct  | accagcagta | ccaactcggt | cagctccgat | caggcgtgga | cagtgcgcgc | 120 |
| gaaaaggcct  | cgctggaggc | gacccctggc | cgcttgagtc | gagtcgacga | gcgcctcgac | 180 |
| gccgtggatg  | gacagcacct | ggtcagcaac | gaggacttcc | gttcaggcca | gcaggcgctg | 240 |
| tccaaccgaa  | ttgacgctgc | gcaggcggtc | gccaaagcag | cctccgatgc | cgtcgagaac | 300 |
| ctggctcaga  | ccaccgcctc | ggccggcgac | ctcttggtgc | tcaaggcaac | cgtggagaca | 360 |
| ctggacgggt  | ctgtccgcac | gcttcaagaa | aagcaggcca | aggcgccgcc | gctgatcgtg | 420 |
| ccagcgccaa  | aacgccccat | acccgccaag | cccaagccga | aacccaaacc | gatggagccc | 480 |
| ccgccccttct | cgatccttgg | cgtggagtat | cgcgggggag | aacggtttct | gtcggttgca | 540 |
| cctccgggat  | ccaccagct  | cagccagatc | tacctcattc | gccggggaga | tgccgtcgcc | 600 |
| ggcacgacct  | ggcgactgac | cgaccttgac | gatggtaccg | cgcacttcga | cgtcgccggc | 660 |
| acctcgcgca  | gcgttcgcat | ccaaccatag |            |            |            | 690 |

<210> 32  
 <211> 217  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 32   |            |            |            |            |            |     |
| atgccgcgcc | gcttgatcct | ctcggtcagc | gagcgggata | tcctatttgc | actgccggta | 60  |
| agccgaatga | cctcactgac | tactccacct | caacgagtc  | gccccatcgt | cgatccgcca | 120 |
| gcgacgcggc | gatgccaatc | acttggtttt | ttcggtgcag | gtcagcctgc | tgtgctatcc | 180 |
| agcgttcagc | cctgatgcgc | gacgaagagc | ccccgag    |            |            | 217 |

<210> 33  
 <211> 1032  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| <400> 33   |             |            |            |            |            |     |
| atggccgaag | ctatcagaaa  | ggatgcaatg | atgacaaaac | tctactttga | tcttctgaac | 60  |
| tcgcctgccg | aggctcattc  | gtcgatacaa | aagtctttat | ctgtgcaggc | aatctccaca | 120 |
| actgtcccaa | tactggagtt  | tccttcggaa | accgtatacg | cctatgcac  | gtacataaat | 180 |
| gcattaagta | tcgggtcaacg | catagatcct | gcattcacc  | agagcttaac | gagtgccata | 240 |
| tccaacctgg | caggctcgcc  | gattgcagta | agcgacattt | acaaaaaat  | tcatgaaacc | 300 |
| acactgagaa | cacctgttga  | gatgggcgtt | cgctctaata | gcacacctt  | tgaggagtat | 360 |
| caggccacca | taaatcagca  | agccatcaac | atggttcaag | atatgcagga | tgagacaaa  | 420 |
| ggtgagaagg | tgaggccct   | ccaggccaat | atgcagttcc | tgtatggaca | ggagataaat | 480 |
| actgatttca | tcgtctgtaa  | tgaactcgct | gctgggcaga | gagcgaaaac | cgtcgcaata | 540 |

|            |            |            |            |             |            |      |
|------------|------------|------------|------------|-------------|------------|------|
| gttcaggggc | atatcaccat | cgggtacggc | ttcgatacct | tcgtgcatga  | agcgtccgag | 600  |
| ctaaactctt | tgaatcttgt | tggttctacg | cgacagaagg | tattacctgc  | attgcagcta | 660  |
| tcaacgtccg | accagggtt  | ctggagcgtc | tatgccttgc | tgggacaaag  | tctcacggat | 720  |
| gacgatgggc | tattactctt | tagtgccaaa | gcgcgagctg | ttgttcaacg  | catagcaagc | 780  |
| aaccagtttg | caggtaagtg | gaatgggcta | ccccagcta  | tcaaaacggg  | tgcgcttgat | 840  |
| ctatattatc | aatatgggca | gactggtaat | tttccaaaat | ttcaacaagc  | tataaatagc | 900  |
| catgattggc | cggcagtcac | ccatgaactt | agaaactgga | atgggtgtacc | gaatgatcct | 960  |
| ctccagttca | ttacaaaacg | attggaagag | cgagccaagt | atctggcaat  | atccttcaac | 1020 |
| tatgagcaat | ga         |            |            |             |            | 1032 |

<210> 34  
 <211> 666  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |             |
|-------------|-------------|
| <400> 34    |             |
| atgaacaaca  | cagtgagcga  |
| atgtccgggc  | tctacaaggg  |
| gtacagcttg  | tggaggcttg  |
| ggagatgtct  | cgaaaatcga  |
| gttatcctgc  | ttcaactcca  |
| gccttgatca  | gttctgtctc  |
| tatctaaacc  | tgtctgaaaca |
| atgtcagggtg | gcagtcggaa  |
| ggcggctctaa | ctcaatcaca  |
| ctcactcagg  | gaatcggtgt  |
| atagccactg  | gtattcggtta |
| gtttag      |             |

<210> 35  
 <211> 675  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |
|------------|------------|
| <400> 35   |            |
| atgacccaag | ctgcgaaaat |
| atcaatatct | ggccggaaaa |
| aatggggcta | catgcagcct |
| ccgtattcct | ctgcttcctg |
| gtcaaacgtg | aggaaaattc |
| gaaggagcct | atagcgtccc |
| cgacaaatgt | tgggtatgat |
| aagcttttgt | cagactgcgc |
| acacttgcca | tgatcagtgc |
| cgggtgcaaa | agcaaattcc |
| gcggagcacg | ctttcgctat |
| agcgacgaga | aataa      |

<210> 36  
 <211> 246  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |
|------------|------------|
| <400> 36   |            |
| gtgctggtag | agcgttttgc |
| gccggccgct | gcccgcagcc |
| ccccggtacg | cgagagcctt |
| ctcagcaagc | cagccgcggg |
| ggttga     |            |

<210> 37  
 <211> 360  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 37  
 atggatattc gcctggagat tttagcgctt gaacagctgt tgctagagcc ggaatcgaga 60  
 aagaatgac gactgcttaa acagctgctt accgaagact tcgttgaatt tggagctatc 120  
 ggcaaaagct ggacgaaagc ggaggtgac gtgggactaa aatcccagac ttggatcaaa 180  
 aggacaatcg aggatttcaa actgctgtgt cttgcagatg gtgtcgcgtt agcaacgtac 240  
 cgatgccgtc atcaaaatgc taatggcgat gagtcgttat caatgcgtag ctctgtttgg 300  
 aaaacctacg aagatggttg gcacatggtg tttcaccaag gcacgagggt ctccgagtag 360

<210> 38  
 <211> 1536  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 38  
 atgacttcct cgcccaacct tgaccagatg accccggaac agcttcgtgc cttggcggca 60  
 caggcggtgc agttgcaatc ccaggctcag gcgatgagca ggaaaatccg caacaatgaa 120  
 accctcatcg aacagttcaa gttcgaaatc gctctgctca aacgccacaa gtttgccaag 180  
 cgcagcgagc aaatcagttc ggcgcaaggc agcttgctgg atgacctgct cgacaccgac 240  
 cttgaagcta tcgaggccga gctgaaacaa ctcttccag cttcgccaca agccgagcca 300  
 cggaatccc cgaaacgttc gccattgcgc cgcagttcc cgcgcacggt gattcgccac 360  
 gaacctgaaa atacccaatg cgctgcggc tgccaacttc aacgcacggt cgaagacgtc 420  
 agcgagaagc tggattacac gccggcggtg tttaccgtcg agcaacatgt gaggggcaaa 480  
 tgggcctgcc gtcagtgcga aacctgatc caggcgccgg tgccagccca ggttattgat 540  
 aaaggcatcc cgaccgcagg tttgttgccc cactgatgg tggccaagt tggcgatcac 600  
 ttgccgctgt acagacagga aaaaatcttt ggccgcgccg ggctgccaat tgcccgtcgc 660  
 accctggcgc agtgggtcgc aaaaactggc gtgcggcttc agccactggt cgatgcactg 720  
 cgtgaagccg tgctgaacca ggacgtgat cagccgatg aaacaccggt gcaaattgctt 780  
 gcaccagcgc agaagaaaac ccaccgggtc tatgtctggg cctacagcac gacgcggtt 840  
 tcggcgctca aagcgggtgt ttacgacttc agcccaagcc gtgccggaga acatgcacgc 900  
 aacttcctag gcgactggaa tggcaagctg gtctgcgacg acttcgctgg atacaaggcc 960  
 ggttttgaac aaggcatcac tgaaatcggc tgcattgctc atgctcgccg caagttcttc 1020  
 gacctgcatg tcgctaacaa aagccaactg gccgaacagg cgctgcactc aattggcggt 1080  
 ttgtacgagg ttgaacgcca ggctcgggac atgagcaacg aagaccgttg gcgaatacgt 1140  
 caggaaatgg cggtagcgat cagcaaaaaca ctgcattgact ggatgttggc ccagcgcgac 1200  
 ctggtgccc aaggctcggc cacagctaaa gccctcgact acagcctgaa acgctgggga 1260  
 gcgctgacgc gctacctgga cgatggggct gtgcccacg acaacaatca ggtggagaac 1320  
 cagatacggc cgtgggcgct cggaacgctg aactggttat ttgccggatc gctgcgcagt 1380  
 ggcaaacgag cagcagctat catgagcctg atccagtcgc ctgcgatgaa cgggcatgat 1440  
 ccgtatgcct acctgaagga cgtgctaact cgctgccga cgttacggtc gaaagacatc 1500  
 agccagttgc tgccgcatca gtgggtacag atctag 1536

<210> 39  
 <211> 336  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 39  
 atgatccgca tcgatgcgat ctggctagcc accgaaccga tggacatgcg cgccggcacc 60  
 gagacggcat tagcccggtt aattgcggtg ttccgtgcgg cgaagccgca ctgcgcttat 120  
 ctggtcgcca atcgccgggc taaccgaatg aaagtgcgtg tgcacgatgg cgtgggcac 180  
 tggcttgccg cgcgtcgact gaaccaaggc aagttccact ggcccgcat tcgccatggc 240  
 tgcgaggtcg aactcgacag cgaacaactc caggccttgg tgctgggcct gccgtggcag 300  
 cgcgtcggca caggcggtgt gatcagcatg ctgtaa 336

<210> 40  
 <211> 267  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 40  
 atgcgccaac gaagctctta cccgaaaccg ttcaaagccc aggtcggttca ggaatgcctg 60  
 caacctgggg caacgggtgtc cagtgtcgcc atcagccacg gcatcaacgc caatgtcatc 120  
 cgcaaatggc tgacgtctta tcgagaccag cccgtaccag cctcgttacc agcctttgtc 180  
 ccgctgaagg ccacccctaa acggccagcc gaaacgtcag tgctcattga actgcccacg 240  
 gccgggcaaa tgatcacggg gaaatag 267

<210> 41  
 <211> 1227  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 41  
 atggctttat ctcttattcg tagtctcact gcgtccgctt caccgaaacat ctcggcgttg 60  
 aaacgcgatg ccaaacgctt gcagaagaac tcctttcttg tgtttggaac agaatatcca 120  
 ctcaagggtt gccaaaatgc ggtagcagtt tctcgcggtt tccgctcact cgctgatgtc 180  
 gataaactgg agcagcacat tggcatgaat agaagcgctc cattctgggt gatccgtggc 240  
 cgcaacgata cacaccaggg ggtactggaa gcgctatatt gtttagacct tgaatatacc 300  
 gagaatggcc ccgtcggttt tactggaaac ccaaagcact ctatacttcc agccttagtc 360  
 ctttttcttg agcaaatgag ctttaagaaa ctacccgac taatcctcat cgaaacaaaa 420  
 gagacctcaa tccaaacaac ccatatatc gagcgaatag aaaaattaga agtcgaagaa 480  
 actctaaata aatttcgatt tcttgacttg cgagaccgaa accttccgt ttcgcttagt 540  
 accgaggctc gttgctggat cgagtcaatt gtcagtttat tgccaaacga catccaagag 600  
 gaaatacgta ataaaggatg gtcaactcac ttagagatca gtgcatatga gcatgcaaa 660  
 tctcgtaatc aagtatttgg ctctccaac ttcccttgcg tcccttccct ctccataaag 720  
 tcagcgatct atcaactcat ttcaggcgca taccctccct tatggatgca gccatcctcc 780  
 tctggcgaaa tatctaaagt tgatatacgc cgacctctc tcgaaaaaag ctgagaggaa 840  
 accttacttt atctcataaa aaaattagag aatcgacagt tccacacagg catttcatgt 900  
 gagcatgaga gtcgatggcg gccgtatgtc gtactcttct ccaggaatga tccggctagc 960  
 gaggtactag caggagttat aactcgtac ttttcttgga agcaagatag agaccatcgc 1020  
 tcacccaccc tttatgtttc agatggagca gttccctatg ctccaagct tctaggttta 1080  
 ggcggccata cggtcattgc aaatggaatc actgaaattc ccgacgggga tgggtctggg 1140  
 gagttctatg gctacaagaa ctcaactaaa gtcagctcct tatctaacgg aatacagttc 1200  
 atgggtaagc atgtatcact aaagtaa 1227

<210> 42  
 <211> 2250  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 42  
 atgaacgctc tgacccaacc ggccgcccct gccgcctccc acctgaacat caacctgacc 60  
 gacttcatcg acgagttcgg cgacgagctc ctggagtcgc tcaatcgctc caaccccccg 120  
 gtctataccg gtcogtcaa cgtcaccgc cagttgggtga tggaccgact caagcgcaag 180  
 cccttcgcgg ccaggccga ggtcgtccag gccatcaccg ccctgctgct ggaccgtaac 240  
 gagcaggccg gaatcatcaa cgccgagatg ggcaccggga aaaccatgat ggccatcgct 300  
 gtcgcagcgg tcatgcacgc cgccggctat cgccggaccc tggtcgtctc tccgcgcac 360  
 ctggtctaca agtggcgccg cgagatcctg gagaccatcc cagccgcccg cgtctgggta 420  
 ctcaatggcc cagatactct actcaagctg ctcaagctgc gagatcagat gggcgacgcc 480  
 tacgacgggc gccaggagtt ctctcctc gccgcgtgc ggatgaggat gggtttccac 540  
 tggcggtctc cctgctggaa gaaacgcgc gccggcgccc aactgctcgc tgcgtgccc 600  
 gattgcgac aggtcctcga ggacctggaa ggcaacctgg tcacgggtga ggagttcgag 660  
 cgtgggtgacc gtgcagctac ctgttctctc tgccgtgggg cgctctggac gctgatccga 720  
 ccaggcaagc ccgacggcgg caaccggcgc gcaacgattc tcaagtcgat gtgccggata 780

|             |             |             |            |            |             |      |
|-------------|-------------|-------------|------------|------------|-------------|------|
| ccaaccatcg  | gcccgggtcag | ggcgggagcgc | ctgctgaacg | acttcggcga | ggacttctctg | 840  |
| gccacgatgt  | tgggtggacaa | cgtctcggag  | ttcatcaacc | tgatggacgc | caagggcaac  | 900  |
| ttcgtcttca  | gcgatcggca  | ggccaaacgc  | atggagcgat | cgatggcaaa | catcgagttc  | 960  |
| ggcttcgggtg | aaggcggcta  | ccaaccgacc  | gagttcatca | agcgctacct | acctgatggc  | 1020 |
| tacttcgacc  | tgctgggtgct | ggacgaggga  | catgagtaca | agaacagcgg | ctcggcccg   | 1080 |
| ggccaggcca  | tgggctttct  | cgcagccaag  | gcacggaaaa | ccgtgctgct | gaccggaacg  | 1140 |
| ctcatgggcg  | gctacgccga  | cgatctgttc  | tatctcctgt | tccgcatcct | caccagcgc   | 1200 |
| atgatcgagg  | acggctatcg  | gcccacgcg   | cgcggcagca | tggctcccgc | agccatgtcg  | 1260 |
| ttcatgcgcg  | accacggtgt  | gctcaaggat  | atctacaccg | agcgcgacgg | tgattcgcac  | 1320 |
| aagacagcgc  | ggggcaagaa  | gctctcggta  | cgcacggtga | aggctcccgg | cttcggccca  | 1380 |
| aagggcattc  | accgcttcgt  | attgccgttc  | accgtgttcc | tgaagctcaa | ggatattggt  | 1440 |
| ggcaacgtac  | tgcgcgacta  | ccaggaggag  | ttcatcgacg | tgcccatggc | gcctgagcag  | 1500 |
| gcttcggcct  | atcagcgcc   | ggcggccacg  | ctgacagcgg | agctccgcca | ggctctggcg  | 1560 |
| cgacgagata  | ccacgctcct  | gggctgtggtc | ctcaacgtgc | tgctggcttg | gccggactgc  | 1620 |
| tgtttccgac  | cggagatcgt  | caagcatccg  | cgaaccgggg | acacactggc | cttcgtgcca  | 1680 |
| gcgatcttcg  | gtgacgagca  | gttgataccc  | aaggagcagg | tgctgggtga | cctctgcttc  | 1740 |
| gaggagaaaag | cgaagggccg  | caaggttctg  | gcatacaccg | tctacagcgg | gacgcgagac  | 1800 |
| accacgtcca  | ggctgaagaa  | agtgtctcag  | caatccgggc | tgaagggtgc | agtgtacgt   | 1860 |
| gcttcgggtcg | ataccgctcg  | acgcgaggat  | tggatcctcg | accagggtcg | tcgcggcatc  | 1920 |
| gatgtgctga  | tcaccaaccc  | ggagctgggtg | aagaccgggc | tggacttgct | cgacttcccg  | 1980 |
| accatcgcg   | tctgcaaac   | gggctacaac  | gtgtacaccc | tgacgagcgc | cgcgcgcgcg  | 2040 |
| tcgtggcgga  | tcgggcagaa  | gcaccgggtg  | agggtgggtg | tcttcggcta | cgccggcagc  | 2100 |
| tcgcagatca  | cctgcttaca  | gctgatggcc  | aagaagatcg | ctgtgggtca | gagcacgtcg  | 2160 |
| ggagacgttc  | ccgagtcagg  | tctcgactcg  | ttgaaccagg | atggggattc | tgtggagatg  | 2220 |
| gcgttggcac  | gacaactcat  | cgcagcatga  |            |            |             | 2250 |

<210> 43  
 <211> 1452  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |             |            |            |            |      |
|------------|------------|-------------|------------|------------|------------|------|
| <400> 43   |            |             |            |            |            |      |
| atggccctca | tggtcccgcg | cttggcgcg   | aactttgcac | gcaacggcta | cttcctacc  | 60   |
| gatgaggtca | ccctcgaacg | cgctctgcag  | gccctcactc | ttgccccgtc | gggaaggatg | 120  |
| aggatctgtg | acccctgcgc | cgggtgagggt | gttgccctgg | ctgaggcagc | acacaccctc | 180  |
| ggccgcgata | aggtccaagc | cctcgtctgtc | gagtacgacc | gcgagcgcgc | cgaccatgcc | 240  |
| cgaggattgc | ttgaccgagt | gctgcacagt  | gaccttttcg | acaccatgat | cagcaggcag | 300  |
| tcgttcggac | tgctctggct | caaccgcct   | tatggcgacc | tgggtggcga | ccactccggt | 360  |
| gcgtcgcagt | accagggcag | cggccgcgcg  | cgtctggaga | aagcgttcta | ccagcgtgc  | 420  |
| ctgccgttgc | tgacgtacgg | cggcgctcatg | gttctgattg | ttcctcacta | cgtcttgga  | 480  |
| gatgcactga | ctggctggtt | gagcaaccac  | ttcaccggcc | tgcgcatcta | cgcagccgcg | 540  |
| gatacctact | tcaagcaggt | ggtgatcttc  | ggcatccggg | tccgtcggca | ggacctggcc | 600  |
| cgggcggacg | ccaatcaggt | gaggtctcgc  | ctgcaggcga | tcggagcggg | ccaggaaaag | 660  |
| gccgaggaaa | ttccagcggc | ttggcgtgg   | gaaccctacg | tggttctgcc | ggccaccagc | 720  |
| gagctggagc | acttctaccg | agtaaccctg  | gagccggagc | agttcgccgg | tgaatccag  | 780  |
| cggctgcgag | gtctctggcc | tgacttcaac  | ctgcacttcg | cgcaagcggg | gctgcagccg | 840  |
| cgccaccag  | tccgcgagct | gtctcgtctg  | cacctggccc | tggccctggc | cgccggcgcg | 900  |
| atatctggcg | tcgtgcgata | gaagtccggc  | cggatcctgg | tcgtgaaggg | tgacacctac | 960  |
| aaggacaagg | tccgcaagac | cgaattcacc  | gaggacgacg | acggcaacat | caccgaggtg | 1020 |
| aggatcctca | ccgaccgttt | catcccgatc  | atccgggcat | gggaaatgac | accctcctcg | 1080 |
| gtcaatcagg | gccgcgtgct | gaccatcagc  | tcctcggccg | cgaccacgga | agaagctgaa | 1140 |
| gagccccaac | ctgagccggc | ccccgcaccc  | gcaccgtgc  | tgatcagccc | tggccgggtc | 1200 |
| gtaatgaccg | cagccgtgag | ccacctgggtg | gaaaccggtc | aactcaaccc | agcgcctttg | 1260 |
| ctgaaacgcc | atctggcggg | agattgggga  | acgctggacc | aggaagactg | gaacaccaac | 1320 |
| cagagagccc | tgaagtccgg | cgatcggctg  | ctgtcgtcct | acgacatcga | cgccggcgac | 1380 |
| gaatccaggc | tctggatcat | cactgaggca  | gaccgcagct | caaccacgct | tttgcctcct | 1440 |
| agcgattact | ga         |             |            |            |            | 1452 |

<210> 44



<211> 606  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 44  
 atgcccagtc ccaccccgt ctaccagatc gaagagtgtc cagacctgta cgtcgacgcc 60  
 tgcgtgtgag acgagcagtg caacctgggc tttcttttcgg cctggggccg cgacaccgtg 120  
 acacaagagt tcttggccag gctgacgctg ggccgggaag aaaatggcat cgaccatttc 180  
 cacatcatcg tggacggccg ccgcttacct gtcttcccaa accaggatct cctggagaaa 240  
 cgcaccaccc gtcagttccg cggcacgttg ttccggcagcc tgcctaatct ttggctgttc 300  
 gatcggcgag cctcggcgcc cgaccgaggc aatcacctcg ccttcgcaact cctgcagcgc 360  
 gatgaggatc cacaccagag gctctggccg ctggtgatgg aaacctgtcc gctccccctc 420  
 ctgcagcact ggccgagagc ggtgatggag gttctcacc agcaccagat gttgacggcc 480  
 ctaccgggga cgatcggcaa cgtctgcgcc tggcgactcg ccttcggggg cgacgtgctt 540  
 gagcccaccc tcggtgaggt aatccgcgaa agcattctta ccaccgatgc tcaggcgcaa 600  
 gcctga 606

<210> 45  
 <211> 255  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 45  
 atgaatccat tgttcaccaa cctcaccag gaaaccctcg cctacctgta ggaccaactg 60  
 tccaacaacg acgtcgccgg cgacgacgag ctcatcgact tgttcacgta ggagctgtcg 120  
 ctgaccttgg agcaggcgga agcggtgtc gcgctacgag atcagctact ctgccaggtc 180  
 ttctgatcg gccaaaggcc gctgcaccaa gccgatggac tcagcttcga cctcacacc 240  
 aagagcgttc ggtag 255

<210> 46  
 <211> 363  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 46  
 atgggatggc ttttctcaca tcagacgaag gaagacctgc tgcgtgagct gctggcccca 60  
 accagtacct tcgcaggcag caccgaggtg ctggcacacg cagtctccgg caatgaactt 120  
 tggactgtcg taaaacgaac ttttcaactt gccggattct atttcggcaa gccggccggt 180  
 cactcgatca ccatgatcga gctgcaactt ctggactgct cggccgggca atggggctac 240  
 aagaccattc cggaaagcgc cggcccgttc tactacggct gtccgctgga gttcctggac 300  
 ctggctcacg atgagatcaa ccaggaatgg cgtaaacgcc tgacgcacga acaccaagcc 360  
 tga 363

<210> 47  
 <211> 276  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 47  
 atgaaatcga tctacaacac cccaggcttc agcgaggagt tgttgctggt ttgcgcctcg 60  
 ctgcgcgagg tcggaactga caatctggct gaccagttcc gcgcggcagt gttcgaccga 120  
 tccgtcgtcg accaggccat catcgcaact cgtgagcggg tgaagacccc ttccgaggag 180  
 catgcggccg acaacgagcc ctggttgtac tgcgactggc aggccaggca aacagcttac 240  
 cggctcctcc agcgccttga gcgcgcaaca cgctga 276

<210> 48  
 <211> 690  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 48  
atccccctcac cacgatccccg cttcggcgagg atcatccttt tcgcagggtca taccatgatc 60  
acagttccccg gacagttggc cattogaacc atcaacgggc gctatggcga gttcaatgtg 120  
ggaaaactct ggacttcgat cggggaggtt atcatcaagg atgccttcct ggatcaacac 180  
accgaaggca agtaccgcgg tgatttcgtc atcgccaata tccgccccca ccactactcc 240  
gccggcggtc ggctagtcac cgagatccgc gccatagtgg acagcatgac gctgaacgat 300  
atggacagcc tcagcgacga ggaggtagag cgtctttccg gcaatgaggt ggatccgctc 360  
gacgaagtgc ccgagatcca gctccccaca gtagtaccgg cgataccacc aaagtgcggc 420  
tcaccccgaga agtcgaagcc tctgtgcctc gctgcaacca gggacgcgcc tttcgggtatg 480  
gacactccgg ctctgcaga gcaggccgcc tctctggaca cagacgcgga tgcagaactg 540  
ttcgggacgg tctggccgct aggcgaaatc gtcaagctgg acaccacggc cgaccgcaag 600  
cgactacgcc aacagtgcgt gcgactcggc gcgctgggct atgagctcga cttcaaacaa 660  
caggtgtgga cccgcaagga ggccgcatga 690

<210> 49  
<211> 351  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 49  
atgacctctc tcaacaacca ctccagcgca ggtcacactg ctgcgtacct caaactcccc 60  
atcgttctca ccaacgcggc ctggctgcgc ctggtctatc tcgccaaccc tgccagggtc 120  
gacgagatgg gcacccggct ggccagtgct gttcaaaccc cctggcagga gctttctctc 180  
cagccgaccc cgaagcacat ccaattccac ctgtaccaca aggaggaaga ggggcaggac 240  
cgcgcgctcg cgctgctggt tctctcgata gtcgagccgt ccgatgagcc ttcctacctg 300  
cgcatcgagt tgcaggaaga gtgcctcgcc gaacacccgg ttaccgagta g 351

<210> 50  
<211> 708  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 50  
atgactcaac tcaaccggtt tattecgggc tatgagagtt tccgcacgca gcgaaacctg 60  
cagatcactg acgaaggcaa caatctaccg tgctaccgag ctctgcatga aaccacgagc 120  
cacctcccag acgaatattt tcagtgcgag ctgtgctact tcaataacga tttcgccgtg 180  
gtagtccaag agttagacga tgaaagagtt gaaaaatgcc ctcaccaagg aatagtgaga 240  
aacgtacttt acagcatcta cggtagagcag gacggcagaa aaaagcttat cggagatcaa 300  
tactcactga ccgaagccga gagtgtcggt cgataccttt cgttcggcgg cggttataac 360  
ccctgctggg agatcagaaa aacacatcta cccatcagcg cgtggaatag cctctacgaa 420  
aggttctcga ccaagatgcc aatccgcttg ccctcggtgt tggatcgct cttctggtgt 480  
aacgagcacg gtgccgtggg ctttcgcttg cacaacaccc cttggacgga tgagtgtctg 540  
gagatcctgg agatgaccgc agccgctctt cgacaagaac agcttgctt cggcctcgac 600  
gaacaccttg tcgatctgct tcacctcgcg ggacaagcag acattcggt cctggtactt 660  
gatccattcg cgcccacgct caagggcctg ccgctttatg acgattga 708

<210> 51  
<211> 237  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 51  
atgggactgg tgtttctctac cgaaaggaga atcaccatgc aatacggaaa gctggcgctc 60  
gccatctca gcctggaact gccgttgacg gtacttatga ataagaaccg tgcttactac 120  
atcggaactt ctgacgaaga aggaccagcc tcgcgcgagt cggttgaata ttaccctca 180  
cgcaacttg cccaacaggc attagaccac ggcacttggc cgcaactgga atattaa 237

<210> 52  
<211> 267

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 52

```
atgggaaatg tttggcgatt atgccagggc agatacctgg gcattgttgt tggccaggaa 60
cagccaggcg aagttgcaga actgactgct gagcagcagc tcgtcctcga cgtcgtgag 120
gctaacctcc tcaacttccg gcagggcggg cagttctacg atttggatgt tgctcatgat 180
gatctccaga taatggagaa caccacgccc tggggggaga tggtgcccc cggatgggta 240
tgcgatgaag agtggcgcat agcgtag 267
```

<210> 53

<211> 540

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 53

```
ctgacgggca aggtgtttct ccgctttcgc ttacgaaact ggagaatcat catgagcaac 60
aacacccaag cccaagaagc caagtatttc gacctgcaca ccaccggtat cggctacctc 120
aatcgcattc gcgaggtacc gatccgcca ggtgaacat tcctcgccgt aaccgtcgca 180
gccctccatg gcgcggcaga cagcgtggaa tactcctaca tcgactgcaa agtggtcggc 240
gcccaggctg aaaagcttgt ccgccgttgc aaggaagcag tcgaggccaa gaagaaggtt 300
ctgatttcc tccgtatcgg cgatatctgg gcggatccct tcatccacca gaaaggcgag 360
aaacaaggca agcccgcagc aagcctcaaa ggccggctgc tcttcatctc ctggatcaaa 420
gtggatggca ccaccgtcta cgatgcgaag gaagaagctg aaaaagccca gcaaggcaaa 480
ggcgaacctc aaggtgagcc cgcagcccc gctgagcacg ctgaacaagc cgctgcttga 540
```

<210> 54

<211> 567

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 54

```
atgtccaagc aatccaccag cttcgaaatc ggctttgccc tcggcagtgt tgtgctgag 60
ttccgcagag cgctcagtcg ccctccggtc gtagtgcaag cacaagcgcc ggttgcttg 120
agagtccagc gcatcgatcc tgcttctctg gccggccga ccgctggcga gctagaacac 180
atcagcgaca tcccagccat cgtccggctg aagaaggtca acctgaatga ctggtatcta 240
gccaatacgc gcgaggtgca aaagcccaag cgcgcacgca aaccaagcc ggccaaggcg 300
accgccaaag ctgaaacgcc agtcaggaag gagtcaaga tgggttcctt cgaccatttg 360
attgcaccca actccgaaag cgaaatgggg agggcccttc tccagttaga gtccctgaac 420
gatcatgaga ttgctctttt gccagcacct cctggtagcg cagtctcttg ggaactccat 480
cggcgctactc aggagcaata ccaacaagc tggcaggact acttgtccac catgacggat 540
gaacaagtag ctgctctcgg ccgctaa 567
```

<210> 55

<211> 645

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 55

```
atggtgtttc tcctgcaggt tgagggtgcg gagaaaacac tggccctggc ggggaagtgg 60
attccccgct ggggttgcgga agggagcttc tatcgaccga ggccgaccga ccgcgctacc 120
agaagctatg cggctctggg ttggatcaac acggtgggct gtgctgcagc atttcggatc 180
cgagctgcat gggggcatgt cgctgacaac gtcagcagat cacgcgttca tcatcgaagc 240
ggggggcgaa agtgtcaagg tcaagcagga gggggagcgg atgcagcggg cggagagcga 300
gggcggaaga gcgcggctgg tagaaacct gtcaaaggtt tccccagccg tgtctggaag 360
gggagtcaag tgagccacct gtggttgaat cgtcgatccc tgggcattga tcgtctcgat 420
cccatcacc ggccattatc gtggcttggc cagcaaacag taggcacgca tccgcgtaca 480
aagggagccc tgcgtatcac cggcgggcca ccggcagggga gaaggatccc gatgggtagc 540
```

ctgatagtcc tggagcagga gcatacaggct acccatggag aggggaaaag gaggggcccgt 600  
aacaccagta cgacccttaa atcgaggaaa caccgaacct cttga 645

<210> 56  
<211> 438  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 56  
atgccgctga tgtggatcgt cctgggtgctc gcgctcatca ccgggacctg gctgagtgtg 60  
caaagcgacc acgcgacctc gagcgccgaa ctggccgagg tcgacaccct ggccaggagc 120  
ttgctgctct tccggtccag tctggcggag tacgcacacg ccaaccccgg ttccaccggt 180  
tcgcggggcg actccgctct tggtttaccg gcctgggtcc gcaagccagc gcggcttcag 240  
ggctacatcg ccgcgggcac cagctacgcc ttcacgcctc cgccgcccgc ggggctggcg 300  
gcgcccggtg atgctggtac ggaatccgac ctggttggcg tcaggcgcaa cggccagtta 360  
gtcacgcgcc gcctcggagc cactgtcatt gcgctcccta cgcccatccc cgaggcgcg 420  
gtggtcgcgg tcaaataa 438

<210> 57  
<211> 1329  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 57  
atgaggagta cgcgcagcag tggattcatc tcgatcgaac tgatgatcgc cctcgtcgtg 60  
atcgccatcg cgaccgccgg tggcatatcg gtcctgatga gctacctgga cggcttgga 120  
gagcagcagc cggcccagca gcaacagcag gtggccaagg cagcggagaa gtacctgaag 180  
gacaacttca gcacggttct ggccagcgcc ggccgcccgg ccccgccggt gatcaccgtc 240  
ccgatgctgc gcaacaccgc ttacctgccc gcaggcttcc gcgacacca catctacggc 300  
cagcaatacc aggtcctggc ccgcaagccg gcggccaacc agctcgaaac gctgatcgtg 360  
accacgggtg gacaggtagc ttccgaactc tcgatccgcc ggatcgcgca gctcatggga 420  
gccaccgggg gctacatctc gaaaaccaac accagtatcg cccaggggcg cgctggcgag 480  
gtggccctaa gcaatttcgg tagcgtccc ggcgctggac atctggcgac ggcgctgttc 540  
ttccaggacg gcgccatcgc caacgagtac ctctaccgca atgccgtccc gggtcatcct 600  
gaactcaacc ggatgaatac cacgctggac atgggaggca acaatatcgc cgcagccggg 660  
gcgatcacgg ccagcggcaa catcaccacc agcgcggaca tcagcgcgcg caacgtgaca 720  
gccactggtg cggtgaaagc cggcactgct gacgtcgccg gcgagacgta caccggaggc 780  
tggttcagga cccgtggtga cacgggctgg tacaacgaga aatggggcgg cggctggtac 840  
atgagcgaca gcacctgggt gcgctcctgg atgaacaaga acgtctacac cggcggcgag 900  
atgaaagcgg gcaaaactc acgcccaggc cggacggaag tcggcgagta cctacagctc 960  
aaaggcgtgg ccaccgaagg agccaactgc tcgcccgaac ggctggcagg catcaccagc 1020  
accgactct ggctgtcctg ccaaaacggg aatggggac gaaccgccgc ctccatgagc 1080  
ctgaacacca cggccggcgt gatcaaggac tgggtgtact tgcattggtc ggatagcgcc 1140  
atggtgaact acgactacgt ccgctacgcg atcacctgcg gcggccgatt ctgcgcagtg 1200  
ggcttcaacc agacatttgg caccaactac tcgttcgggc taatcactga gatcgccca 1260  
ggcttcaact acccggaacc ctacaagacc cccgactcga ccaacgtgac cgttacctgc 1320  
gtgaactag 1329

<210> 58  
<211> 942  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 58  
gtgagtgtga acccgatcat ccaggctcag ttcgtcgacc tctacctcgg tgaaggcttc 60  
gccgacgtga aaggcctggc cggcgccggc gcgcgcggag tcgaagtgcc tcgcgagtgg 120  
gagtcgcacg tccaggaaact gctccagatc tgcaggcaaa cgctggagga gctgcaggac 180  
cctgagttcg ccactcgtcg cgacggcggt ctgcttcgcg tcaccctcct cgaagacgct 240  
ttcagtggca gcgtcttcgt gctgcgcggc tcgagcgccc aattgcggga gttccaagag 300

|            |            |             |            |             |             |     |
|------------|------------|-------------|------------|-------------|-------------|-----|
| atcggtatc  | cgagcgaagt | ggtttccgca  | ctgatggatc | cgagttgca   | gggcctggtc  | 360 |
| ctgttctgcg | gcgagatggc | gacaggcaag  | accagctccg | ccgcctctct  | gctcctggcc  | 420 |
| cgctgcagg  | agttgggagg | ggtagggctgc | gccgtcgagg | acccgcagga  | aaccaacctc  | 480 |
| agcggtcagc | atgggctcgg | ccgctgcac   | caggtcagaa | cctcacggcg  | ctcaggcgga  | 540 |
| tacagcgagg | ccctgctgcg | cacgctgcgg  | gccggcgccg | acctggtgct  | gattggcgag  | 600 |
| atccgcgacg | aggacaccgc | ctaccaggcc  | tgcaaggcct | ctctgaccgg  | cagcctgggtg | 660 |
| atcgccacca | ttcacgcgaa | aagctgtcat  | caggcgatcg | agcgttgggt  | gacgctcgcc  | 720 |
| cagccactgg | cgagaaacgc | ctacgacgtg  | gttgccgaag | gcattccaagc | tgtgatctgc  | 780 |
| caagcgctgg | agagcgatgg | ttcctcgcg   | cgctgaccg  | ccgagccact  | gctgttctact | 840 |
| ggcgacgacg | gcccgtccat | gcgcgacaag  | atccgccgaa | aggaggctca  | tctgctgcag  | 900 |
| gacgaccaag | ctcgccagtc | ccggcaaagc  | ctatggagat | aa          |             | 942 |

<210> 59  
 <211> 531  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |             |            |             |            |            |     |
|------------|-------------|------------|-------------|------------|------------|-----|
| <400> 59   |             |            |             |            |            |     |
| atgagcacta | cgcaacgcac  | ttcccgtccg | acgcaggggcg | gtttcgtttc | catcgagatg | 60  |
| atcatcgtgc | tgatcatcat  | cgccatcggg | gtcggcctgg  | gcctggccgc | agcggctgga | 120 |
| atgttcagtt | cgtccaacgc  | caacgaggaa | caacgcaaca  | tcagcgtcat | tcgcgccaac | 180 |
| gcacgcgccc | tgaagacctc  | ttcgggctac | ggctccagcg  | gtaccaacct | gatccccagc | 240 |
| ctgatcgcaa | tcaacggcgt  | gccgaagaac | atgagtgtct  | cctccggcgt | cgtctacaac | 300 |
| gtctacggcg | gategggtcac | tgtctcgtcc | accggcatgg  | gcttctcgat | caccaccagc | 360 |
| aagttgcccc | aggacgcctg  | tatcacgctg | gccaccaaga  | tcgcgaagaa | caccttcgag | 420 |
| cagacaaaaa | tcaacagcgg  | atcctcgatc | accggagaag  | tgaccaccgc | agccgcgacc | 480 |
| caggcctgca | gcagcgacag  | caacagcatt | acctggacct  | atagttcgtg | a          | 531 |

<210> 60  
 <211> 1080  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |            |            |            |            |            |      |
|-------------|------------|------------|------------|------------|------------|------|
| <400> 60    |            |            |            |            |            |      |
| atggggggct  | tctgggagca | gttgcagttc | gccttctaca | gcaagcagtt | cggccgcaag | 60   |
| gaacgcctgc  | agttctacga | aagcatgtcc | accctgctcg | aaaacggggg | cccgttgaag | 120  |
| gatgctgtgg  | cagaggtgca | caagatcttc | gctcatgagg | ggcagcatcc | gtttcatccg | 180  |
| gtggccatcg  | ccagtcgcga | agcgtgatg  | gggctgtcca | acggcaagcg | tctggccacc | 240  |
| gccatggcgc  | tctatctccc | cgcccaggag | cgagcgttga | tcgaggccgg | cgagatgagc | 300  |
| ggcaacctgg  | ttcaggccat | gggcgatgcc | gtctccctgg | tcgaggccca | ggccaggatc | 360  |
| cgcgccacca  | tctggcaggc | gctgctctac | ccctcgcgcg | tgtccgccat | gatggtgttc | 420  |
| ctgctgtgca  | tcgtggccta | tcgcatggtc | cccagcctgg | ccaggctctc | cgaccagtc  | 480  |
| acctggaccg  | gcccgtctgc | cacgtcaaac | gccattgcc  | gcttcgtcac | aggacctggt | 540  |
| atctacgttc  | tggtcgccgt | catcaccctc | acgggtggtg | tcacgtcac  | gttgccgacc | 600  |
| taccgctgga  | aaggccgggt | ctggctggac | cggacgtgc  | cgccctggtc | catctaccgc | 660  |
| atgctccagg  | gcaccacctt | cctgctgaac | atggcggtca | tgctcaacgc | cggcatacgc | 720  |
| ccctacgaca  | gcctggccag | catgatcaag | atctccccgc | cctggctgaa | gcagcgcttg | 780  |
| gaagctgccc  | gctacggcgt | gggcctgggc | cagaacttgg | gtgttgccct | tcgcagcgcc | 840  |
| ggtcacgatt  | tccccgaccg | gcaggccatc | cagtacctgt | gcattcctcg | caaccgggga | 900  |
| ggcttctccg  | aggcgtgggt | caagttcagc | cgccgctggc | aggagaccag | cctcaagcag | 960  |
| atcgagctgg  | ccgcggggct | ggtgaagaac | ttcgccctga | tcttcatcgg | cgcgctgatg | 1020 |
| atcctgggtcc | tgctcggcgc | ctaccaggca | cagcagctca | tccaatccat | gaaccactga | 1080 |

<210> 61  
 <211> 1581  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 61

```
atgacgaacc ttcagattgc cgcgcttgcg cagccctcca tgggtgacca actgctcacc 60
gccgacgggtg gtgaatggga ggtatcgaag cacctgcagg aaatcatggc tctgggtgcc 120
gacggcacgc tctatctatc ggagagccac cagaacgaca tacacgttct gtcgttcac 180
gaccgtctcg atcgccgtgg cttccgatac cagctcaacc tcaccgacct gcagaccatt 240
caccagcttt accgcgcggt cgccatggac ggccctggtcg atagcgatgg ccagcgcgcc 300
acccagatgc aggagcgcgt ggtcaagatc attcgtaagg ccaactgagct gcgcgccagt 360
gacgtgcatt tcgtcgtgag tcccgcgggc accggcagca agatccgttt ccgctcgac 420
ggcctgctga agaccgtcga gcagttccgc agccaggagc tgcacgaact ctgtgcaacc 480
atctaccaat ccatgtgcga cgtggccgag ccactgttca agccgcaact ggaccaggac 540
gcgcggatga gccagacctt cgtcgagaag ctcaacctgt tcagtgcccg gatcgccacc 600
cgcccgctg ccgggggggtt cctgatgatc ctgcgactgc tctacgacga caccggcctc 660
gacagcctgg agcagctcgg ctacctgccc gagcagaacg cactgttcga tcgcatgatg 720
cgtatgccct acggcatcaa catcctgtcc ggccccaccg ggtcaggaaa gtcgatgacc 780
ttgaaggta ccttgaagg cctcgacaag ctccatggcg gatccaagca catcctgacc 840
atcgaggatc cgcgggaata ccgatttcgc ggcgaaggca tcaaccagac cccactggtc 900
tacgacgcca ccgaccaga cgcagaacgc caggcctggg ccgcgggcat cgccaacggc 960
atgcgcctgg atccggacta catgatgatc ggcaagtag gcgacctctt cgccgtgtc 1020
gcgcggttcc gtggtgcat gaccgggcac ggccatggt cgacctgca caccaacagc 1080
gcgatcgcca ttgtccagcg cctgaaggac ctgggcgtcg accccggctt gctgttcgat 1140
ccggccctgc tgaccggcct gatcaaccag agcctgctgc ccaagctctg cccccactgc 1200
aaagtgcgct tccaagacca ccaagaccaa ctgcgcgccg acttggtcga acgggtccga 1260
cgcttgaccg atgtttccca ggttcacgtc aaggggcctg gctgccaggc ctgccgtggc 1320
tccggggta acggccgtc gatcgtcgcc gaggtggttc tgcccacct cgcttcacg 1380
cgtgtgttcg ccaaaggcgg cccagccgag gcacgcaact actgggtcaa gaccatgcag 1440
ggcatcacca agcacgcca cccatccgc cgcataacg agggcatgtt cgaccgcag 1500
atggtcgagg atttcattgg gccactcgac ttcgatgagc atctgctcga cgacagcttc 1560
tactcgagg aggcgtgctg a 1581
```

<210> 62

<211> 534

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 62

```
atgcaactg agccgatcgg catggccgtg gccgtgctct tctcctcgc gtctggccag 60
gcctgcgtg gcaccgttgg cgaacttgcg gagatccagg cccaggccat cctcaccgag 120
gccaaggtgc gcctggccac ggcgagcgg caattggaag gcaaaggcga aaccggccag 180
gtcgtcagcg cccaggggca gacgttcgcc atgcccgtgc cggcgccgcc gccgacgatc 240
acgcagccgg ttccgccagt ggtgcggacc atctacggcg ccggcggcaa gatgactgcc 300
acgttcttgt tcccgggcgg gtacgaggtt gacgcgccca gcggcgcgga gctgctggc 360
aaataccgcy tcgagtaaat ctgctggac caggtcgtgc tcaccgacaa ggacggcaac 420
cgctgccccg tgggtttctc cagcgttgcc cccaccaag cctcctctac ggccaaggc 480
gcctcggttc cgccggcgct gcccggggct gtaccgcagc cgttcattca gtag 534
```

<210> 63

<211> 1326

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 63

```
atggagaagc ctgacctcgg cagccgtgga ccagacgtct cgatcctgag ctaccacggc 60
aacaagttcg tcagcggcct gttctggcgg ccgctgtcca gccagcggca gtacatgaag 120
gaagcgcgca agctgggcaa ggaagagcat ctggacatcg ttgccatccg ccattcaccg 180
acggtgatcc aggcgggctt cgtttcgaag tcgcaaggcg cagtcaaggg gatgtactcc 240
ctggcctcgg cgctttcagg ccagttcgac ggcgacttcc tggcctgctg gaaagtcgac 300
gaggaccgct acgcgctggt cgccacgctc gatggcgcgga ttgtccccgg gcaggatctg 360
gtcaccaccc tcgacgagge ccgggaccgg gtcaggaagc tctctacgcg cggcgtgctg 420
cgaaacgcac aggtcttcgt tcccgaaggg ttcgatttcc ccgtcaagga cttcgacatc 480
```

|            |            |            |             |            |            |      |
|------------|------------|------------|-------------|------------|------------|------|
| gaggaactgc | tcgcgccgaa | gcgcctgcgg | cgcgactacc  | gcctccggca | actcaccttc | 540  |
| ggcttgctcg | ccagggagtg | gacggcagtg | gccctgctcg  | gttgctgggt | aggtgggtcg | 600  |
| ctaaccgcct | actacctatg | gaatgccac  | caggaagagc  | tcgccaggca | agccgcgctc | 660  |
| ctcgaggagc | agaggcgcct | cgccgagctg | gccgagaaga  | acgcccaggc | caagcagccg | 720  |
| ctggacctgg | cgtcattgca | gaagccttgg | acgctcatac  | ctgacctcga | ggacatgcta | 780  |
| cgcgctgtga | gcaaggcaac | gggggtactg | tcgctgtcga  | tccagggctg | gctcttcgaa | 840  |
| tccagcaagt | gcgacggcag | ggtcctggtc | gccacctacc  | accgtaccgg | caacagcaca | 900  |
| gcagccgagc | tgacagcggc | cagccagcac | ctgttcgccg  | accgccccgc | cttcgtcatc | 960  |
| gacaacggca | acaccgcggc | cctgaaggtc | gatctgaagg  | ttgccatcgg | cagtgatgag | 1020 |
| ccgctactgc | cggcggacga | cgttctgcag | gcgctgacga  | gccacctgta | ccgtcaaggg | 1080 |
| gtcgagccca | agctgtcgat | cagccaggag | acaactccgc  | ccctccctgg | cgcggaagct | 1140 |
| gcgactgaac | agcaagtggg | gttgcccttc | tggaagaaat  | tcaccttcag | cgcccagacc | 1200 |
| cggctcccgg | cagacctgac | cttcaggagg | ctgcccgcgtg | ccggtgtccg | catcaccaac | 1260 |
| ctcgaaacca | cgctcaagga | cagccagttg | gactggactg  | tcacaggaga | aatctatgcy | 1320 |
| aactga     |            |            |             |            |            | 1326 |

<210> 64

<211> 1623

<212> DNA

<213> Pseudomonas aeruginosa

<400> 64

|             |             |             |             |             |             |      |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| atcggtgtgcg | aaagctacggc | agattccgcg  | tctacgatcg  | cagcgcaggt  | gcgcaacacc  | 60   |
| cgaccgggac  | ggcgcgatac  | ggtgggtgttc | tccgacaaac  | cctgggtcag  | cacgaaaccc  | 120  |
| ctaagcgttt  | cgcacacctt  | gtccagtgac  | tgcatcgtag  | cgtggcgccc  | tgacggcgca  | 180  |
| gcgtcgctgc  | aggaggccgc  | ccaggaagtc  | atcaaccaat  | gccacatggc  | ggtcagtatc  | 240  |
| acgcccgcag  | cgctgaaccc  | ggccgccttc  | gccgtgcaac  | ctcagcagcg  | cgcgagcaac  | 300  |
| gccccgcggc  | ccatccaagg  | cgccaggac   | atggccacca  | tgctgtttcc  | tgccctccgtc | 360  |
| gccaacggca  | tgctcgctcg  | tgccggcggc  | agcatggggg  | cgagcttcgg  | gtcctacggt  | 420  |
| ccgcggtctc  | tgtacaacat  | caaagtgaac  | ggcaaagtca  | gcgggttcct  | cgatctcatc  | 480  |
| gcgccccgag  | ccggcggtgtc | ctggcgctac  | aacccaaccg  | agaaaagggt  | cgagttctac  | 540  |
| tacctggaca  | ctcggacctt  | ccgcatgtac  | gccttcgacg  | acgtcaacac  | ggtggactcc  | 600  |
| accgtgcgtt  | ccggtatgac  | gacggccggc  | ggcatcagcg  | gggacggctc  | cggatccacc  | 660  |
| ggacagaatg  | gcagctccgg  | catcagcggc  | gactccggca  | gcaagcagac  | caccagctcg  | 720  |
| gagctgaaga  | catcgatcct  | cagcgacatc  | gagaacagca  | tcaactcgat  | gctgacgccc  | 780  |
| agcatgggac  | gcatgtcgct  | gtcgcgtgcc  | acgggcaccc  | tgaccgtcac  | cgaccgtcca  | 840  |
| gaagtccctc  | accgtgtcca  | gcagttggtc  | aaccgagaga  | acgagagcat  | caccaagcag  | 900  |
| gtgctgctga  | acgtcaacgt  | gctctcggtc  | gccctgaccg  | acaaggatca  | actggggatc  | 960  |
| gactggaacc  | tggtctacaa  | gtcgtctaac  | aacaagtggg  | gcacgcgcct  | gaagaacacc  | 1020 |
| atgccggggc  | tcgatcaaa   | cgcatctcc   | ggctccgtga  | gcacccctga  | taccgccaac  | 1080 |
| agcgctctgg  | caggatccaa  | ggccatggtc  | caggcgctgg  | cccagcaggg  | ccgctctcgc  | 1140 |
| accgtccgat  | ccccgtccgt  | gaccacgctc  | aacctccagt  | cggcgccgat  | ccagatcggc  | 1200 |
| cgctacgaca  | gctacctggc  | ctccagccag  | atctccaacg  | tcgcccagggt | cggcagtacc  | 1260 |
| acctcgctga  | tcggggcgcc  | cgtgaccagc  | ggctacaaca  | tgagcctgct  | gccgttcgtg  | 1320 |
| atggaaagcg  | gcgagatgct  | gctgaagatc  | aacatcaaca  | tgacctcccg  | gccgacgttc  | 1380 |
| gaaatgcaga  | ccagcgggga  | ctccaaagcc  | cagttcccga  | gctacgacat  | acaactgttc  | 1440 |
| gaccagaagg  | tacgtctgcy  | cagcggcgag  | accttggtac  | tctccggctt  | cgaccagacc  | 1500 |
| accgaggaca  | ccaacaagggt | cggcaccggc  | gacgctgggt  | tcttcgggtc  | tggcggcggg  | 1560 |
| ctgaccgcga  | ataccaagcg  | cgaggtcatc  | gtgggtgctga | tcacccccgt  | cgtgctgggc  | 1620 |
| tga         |             |             |             |             |             | 1623 |

<210> 65

<211> 1125

<212> DNA

<213> Pseudomonas aeruginosa

<400> 65

|            |            |            |             |            |            |     |
|------------|------------|------------|-------------|------------|------------|-----|
| atgaccaggc | agttgaccac | tctcacgctg | tgccctgctgc | tcgccagctg | cacgaccac  | 60  |
| aaggctgagc | cggccaggcc | agccttcgac | agcagccgca  | atccagacct | gctttctccg | 120 |

|            |             |            |             |             |             |      |
|------------|-------------|------------|-------------|-------------|-------------|------|
| gacctgtatc | caaacggtgt  | gcagccggag | aaagagcccg  | tagtgcgcta  | tgggcgctac  | 180  |
| accctggtea | gcacccagcc  | tgatgccggt | caacgcgacc  | tgatggccca  | gatcatcgac  | 240  |
| gtaaccatcc | cgctcgagcat | gaacccgagc | gtcaaggacg  | ccatgcagta  | cgtgatgagc  | 300  |
| cgctcggggt | actcgctgtg  | cccggcagac | gccggtcatg  | tgaacatcct  | ctacacccgg  | 360  |
| ccgctgccgg | cagctcagta  | caagctcggc | ccgatgaccc  | tgcgcaacac  | cctccaggtc  | 420  |
| ctctccggcc | cagcctggca  | ggttaaggte | gacgaggteg  | cgcggcagggt | ctgcttcgtg  | 480  |
| ctgcgccccg | gctatcaact  | tcccccgggc | ccgaggccga  | aaccggtcca  | gcaactgtat  | 540  |
| gcgaagcccg | ctgccccaac  | tccgcccggc | gtagcgcaac  | cctcctccac  | ggagaaaagtc | 600  |
| agcacgctgg | agtcgcccac  | cgtggtcgcc | tccggtgccga | caccggcgcc  | gatcacaacc  | 660  |
| agccacgctc | cggccaagaa  | gcctgaatcc | accactgtgc  | tccccccagc  | cgcaccggcc  | 720  |
| aaggatggcc | acccctcttc  | tcctcccggc | gcttcggcac  | cgaccaagcc  | tgcggcctcc  | 780  |
| gccgtgaagt | ccacgcgcgc  | cactccaccc | accgtggctt  | ccgccccacc  | ggtcaagggtg | 840  |
| ctcacgcccg | cggaaaccgag | ccggccgctg | gcacaggcct  | ggtcagccga  | gacgggatca  | 900  |
| accctgcgcg | acaccttgga  | agcttgggca | aagcgcgcac  | gctggaccgt  | ccgctgggag  | 960  |
| ccgcaggatc | tcaactatcc  | gatcgaggct | ccactgacct  | tccacggctc  | cttcgaggac  | 1020 |
| gcggtatccg | agctgttccc  | cctgtatgac | gctgccgaac  | ggcccttcct  | ggtgaacgcc  | 1080 |
| agccgcccgc | agtccttgat  | catcatcaag | gagcgcaaga  | actga       |             | 1125 |

<210> 66  
 <211> 327  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |            |
|-------------|------------|
| <400> 66    |            |
| ttgagcttta  | aatactattg |
| gcttggaag   | gctccgtatt |
| ttcagtacta  | tcctgtttcc |
| acggaaaaag  | agttctgggt |
| tatgcagtct  | tttatttggc |
| ttctataaat  | acggaaaggc |
| ggctaaat    | ttctggggag |
| gcatcagtta  | accccttggg |
| aggcttggtg  | aagacttcgc |
| ttctccgaaa  | cccctgcaaa |
| ttttcaattc  | ccttggggat |
| tggttttagtc |            |
| agtggtctgga |            |
| tttaaaatat  |            |
| aacaggattg  |            |
| gattttttta  |            |
| 327         |            |

<210> 67  
 <211> 1497  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |             |
|-------------|-------------|
| <400> 67    |             |
| atgtccaatg  | acaacgaagt  |
| caatacgcac  | acgaggttcc  |
| gacttgattc  | aaagagacat  |
| gttgaaacaag | gaacaaaaga  |
| ggcttgctaa  | acgagatcac  |
| gtcatgtcgg  | cagtccctgca |
| accaaaggcc  | cattcattga  |
| gtcaagatct  | gggagaagaa  |
| gttagagatg  | aactggagcg  |
| gtaaaagtgc  | taagacagga  |
| tctcaactgg  | agcgggacta  |
| gagcttgatc  | aagcgggaag  |
| cttgaacgtg  | ccacaagact  |
| acaaacaata  | ctcttatcaa  |
| aatggtgagc  | tacttggtga  |
| gccgaaacga  | cacgacgcag  |
| caagatgctg  | ttaaattttac |
| cgaacatcag  | agatggcgca  |
| tcggcggaag  | caatcaattc  |
| cttaaagata  | ggcaagccat  |
| aagagccttg  | agaaattttag |
| agcctgtacc  | aagagttcaa  |
| acctggttcc  | atggttattg  |
| agcgcggccg  | ttgccgggaa  |
| attatccagt  | ccgatccatt  |
| aagtatctga  | tcaagtcgat  |
| caaggcaaga  | gcgagtcgat  |
| tctgatcttg  | aaggatacaa  |
| tctccatcta  | tgaggcctgg  |
| agtagccctt  | tcagcagctt  |
| aagattcact  | ctctgaagcg  |
| taaaaggaaa  | agaggacctc  |
| tcgagatgaa  | agtacaatcc  |
| gtccaacgcc  | agagcaatgg  |
| ataaaaagca  | gctgcagacc  |
| aaaagcagaa  | agccatctac  |
| cccgtctaga  | taagctgaac  |
| cggccgagga  | acaagcgttg  |
| taactgagaa  | atttggcgca  |
| gggggaaaaa  | tatcaggagt  |
| cgttaaataa  | aaaacttagc  |
| tagacaagca  | gatgatggcg  |
| gcaaagctat  | tgacgcgcgc  |
| actggaaacc  | attctttgta  |
| 1320        |             |



|            |            |            |            |            |            |      |
|------------|------------|------------|------------|------------|------------|------|
| aaagttgaaa | cactagctgc | tggtgcggcc | gccagttggc | ttgtgggtat | tgcatttgcc | 1380 |
| acggcaacgg | ccactcctat | agggatcctg | gggttcgcac | tggtaatggc | agttaccggg | 1440 |
| gcgatgattg | acgaaggcct | tctagaaaaa | gcaaacaacc | ttgtaatgtc | catttaa    | 1497 |

<210> 68  
 <211> 1974  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |             |            |            |            |            |      |
|-------------|-------------|------------|------------|------------|------------|------|
| <400> 68    |             |            |            |            |            |      |
| atgaaccgtc  | cacgcctggt  | taatcgtaac | tccgcgacac | cttcgacgct | tctgcagcgg | 60   |
| gctatcttcg  | acggctacga  | cttcggcttg | aagatcccct | acatcgagc  | cagcaatcgc | 120  |
| gcgctgctgg  | agctgtccgg  | cttcttcac  | agcgcgggg  | agcatccgtt | gcaccgctac | 180  |
| tgggcgggtcc | ccaaaggcaa  | gctgctgcct | gaactggaca | ctctgtacaa | ccgtctcgcc | 240  |
| gagctagctg  | gaggccttca  | ctcccagtc  | tgccgggagt | tcagctcctt | ggtcgaatcc | 300  |
| gcgcaggcct  | cgcttgaccg  | acaggccttc | acctggggga | tgctgctgcg | catcgcgccc | 360  |
| ctggccgagg  | gcggcgctct  | actgtcaggc | gagttccatc | ctgggtgtgt | ggcgggtggc | 420  |
| cgccggatgc  | gcgggggtatt | cctgcgcccc | tcgagttcct | ggcgcatcga | caccactccc | 480  |
| gagctgctcc  | gaagcaacct  | gattctggag | cttggcctcg | ccgaggaaca | attcgagatt | 540  |
| ctggatactg  | tccaggagct  | gctcagcgac | ggcagcttcg | cgccgtcgac | cgagctgccc | 600  |
| agcatgagca  | tccggcggtcc | acagcaggaa | ccggcagcgc | catccctgga | ggacgagtca | 660  |
| gcctctgaca  | tctacctcgc  | cgcggtgccc | gagatcgagc | gcaccgagta | cagctcggct | 720  |
| gatatacgagg | cgccgcttca  | gggctactct | ctactggccc | accagcctga | cgccatcgct | 780  |
| catctgctgc  | agagaaccag  | cgctttattg | gccgacgaca | tggtattggg | caagaccgcg | 840  |
| caggcggtca  | tcgcccgttc  | gacccgcgcg | gcgggcagac | caatcctggt | catcaccctg | 900  |
| gctaccctgc  | tgatcaattg  | gcagcgggag | atccaggagg | tctatccctc | ggccaccgtg | 960  |
| gccatccagc  | aggacacccc  | agaggcgcag | tggtatcctg | tcaactacga | gcagttgagc | 1020 |
| cccttcgtcg  | ccaacgcttc  | gcgcttcgcc | gtgatggtca | tcgacgaggc | gcagcggatg | 1080 |
| aaggaaccga  | cgccgcaatg  | cacgcggcac | ggtttcgaca | ttgccgccc  | agtgccgaac | 1140 |
| cgctacctgc  | ttaccggcac  | gccggtgctc | aaccgcgaga | cagagctgca | caccctgctg | 1200 |
| cgctctcag   | gccaccccat  | cgcccaactg | ccgtgaaag  | agttctgca  | ccgtttcgcc | 1260 |
| ggcaaccggg  | agttccgcca  | gagttctgcg | gcggagctgg | gtgactggat | gctgcgcagg | 1320 |
| cgcaaatagg  | tgctgcccag  | cctcaagggc | aagcagcggc | agttgctgaa | ggtggccctc | 1380 |
| tccaccgagg  | aacgccagca  | atacgacgtg | ctgcgcctcg | aggaccgacc | ggtcttcgcg | 1440 |
| cgactcggcg  | cgctgcggcg  | ttacctggaa | acggtgaaag | ttcgcggtgg | gatggacctg | 1500 |
| ttgagcgagc  | tcgacgcaga  | ggacaagggt | atcctgttct | gcgagttcaa | gccgaccgtg | 1560 |
| gctgcgctga  | aggaactctg  | cgagcaggcc | ggacacggct | gcgtcacgct | ggtgggcaat | 1620 |
| gactcgctca  | ccaagcggca  | gaaggcgata | gatcgcttcc | agcaggatcc | cgactgccga | 1680 |
| gtgttcatct  | gcaactacgc  | ggccgcaggg | acgggcaaca | acctcactgc | ggcgaactac | 1740 |
| gtgtttttcc  | tcggcctgcc  | ctggactccc | ggtcagcagg | aacaagccga | agaccgcgcg | 1800 |
| taccgaaacg  | gccagctccg  | catggtcgtg | gtgaaaatcc | cactggctga | ggccacgatc | 1860 |
| gacgactaac  | tgtggcaact  | gctcaacgcg | aaacgccagg | ttgcccagga | cctcatcgag | 1920 |
| cccagcagcg  | tcgacggaaa  | ccgcgcgctt | ttagccgcaa | gcctaactgg | ataa       | 1974 |

<210> 69  
 <211> 1890  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |            |             |            |            |            |     |
|-------------|------------|-------------|------------|------------|------------|-----|
| <400> 69    |            |             |            |            |            |     |
| gtggcacctc  | tcgacaacgc | ccccctagc   | gggcgcgtac | aggatccatc | cctggcccgc | 60  |
| tacagcgagc  | ggcagctcgc | cgtcgccaac  | acctgggcaa | cacatttctc | cctcgagggg | 120 |
| acagctcgaa  | ccaagtccat | ccgtcactac  | ctgcgcagca | catctacgac | caggtgctgg | 180 |
| tgcatacacg  | tcgctgctga | caacggtgtg  | cgttacacca | tcatgcgtgc | agggccgcta | 240 |
| ctccagggtat | tcgacggtca | actaattggt  | gcgtgggagt | gcaagcctgc | ccatcgatat | 300 |
| ccggcaagca  | cgccgtctcg | agcaggggccc | ttgaagctgc | tacagcgcc  | tcaaaagtcc | 360 |
| gacgacgcag  | ttgctgtact | cagctcatac  | acaaagcgag | cgcacgacct | agccacacag | 420 |
| atggccaggg  | acgatctcgg | acttcaacat  | cgctcgtgtg | atccgagcca | cagcaacaag | 480 |
| cgctagactg  | cgccaaggca | ccagttctac  | ttgaagcaga | tcggagcggg | cttgcgaacc | 540 |

|             |            |             |             |            |             |      |
|-------------|------------|-------------|-------------|------------|-------------|------|
| ttcagacagg  | tcctggacca | agacctgctg  | ttcgccatcc  | gctcggttcg | gtgcctctcg  | 600  |
| ccccagctct  | acaactgggt | gggtcaaggc  | gaccagggtgc | gccgggtgca | aatgctgaag  | 660  |
| gctcagccgg  | tcttgacgcc | gctactgggtg | gattgcgagg  | agggagtctg | gcctcacacg  | 720  |
| acgaccaacg  | acaacggcga | gagcatccgc  | cattaccttc  | cttgcccctt | tccccagctt  | 780  |
| gacagtgaac  | gaccgcaggc | cgccgccatg  | ccatgcgact  | tgtacctcga | tatgggccgt  | 840  |
| attcttgggc  | aggtcgcgga | cgaaggaatt  | tcggtcacat  | actttttcgc | ctggctattt  | 900  |
| caggcgccgc  | gggcctcgat | tcgattttct  | agtcacgtca  | gtcccggccg | tgccgggagga | 960  |
| gctctcttcc  | atcgcaaacg | ggaaggccga  | cattcgggat  | ggcatgctct | cctactggcg  | 1020 |
| gcatcgctag  | gtaaccggcg | gccgatcact  | cgcgctcaat  | ggacagcatt | ctatgccgcc  | 1080 |
| tacaatgcga  | tcccttggca | agttcacaa   | gccaaagccc  | actacaaccg | tctcttcaac  | 1140 |
| ggctgcccgt  | cggattggca | ggatccggca  | tggcttgcaa  | tactgcacg  | gctgagagac  | 1200 |
| atcaaggagt  | tctataaccg | cctcgaccag  | gggaactcac  | aggttgttcg | gcaggcgcg   | 1260 |
| agcgccctga  | aagcgatat  | gggtcattgt  | acctaccgac  | aagctggcaa | cctgggtggac | 1320 |
| gactaccacc  | aggtcagag  | ggagctgctg  | gccgcagtgc  | agagcagcct | gcccgatctg  | 1380 |
| gtcgacaccg  | acgagtacac | cacctgggag  | ggaatgctgt  | ctgtcgggtc | tatcgattgc  | 1440 |
| cctaattggac | tgcatatcgt | cgagctccgc  | tgtcctgccg  | acctatatgc | cgaacatac   | 1500 |
| gctctggcac  | attgcatcga | tagctacgac  | caggccgcct  | accgaggaga | ctgccgactg  | 1560 |
| ctctcagtag  | gtgaggctgg | tcgtccgctg  | gcctctgccg  | aattggagct | caggcgtag   | 1620 |
| catggcgagc  | ctataggtag | gccctggagt  | cccaagcacc  | tttcacaggt | gcaactgcgc  | 1680 |
| gaattcgata  | atgcccccg  | gccgaccgac  | tcgcctgccg  | gccaggcata | ccgctggttc  | 1740 |
| atggaacgaa  | ttcgctctgg | agccatagcg  | acgaacctga  | actggcccga | catgaccgtc  | 1800 |
| cacatgacgc  | gcttcgcca  | tggtcgctgg  | aaggcgggcc  | tcgccgaagc | cacggcgaag  | 1860 |
| tggctgctca  | ctcagttgga | agaccgatga  |             |            |             | 1890 |

<210> 70  
 <211> 471  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |            |            |             |            |             |     |
|-------------|------------|------------|-------------|------------|-------------|-----|
| <400> 70    |            |            |             |            |             |     |
| atgcgaaaag  | agaatatatc | tgccgaaatc | acagagcgag  | cttttgattt | tttctatttg  | 60  |
| ttctcgcgat  | ttgagttcag | cctcaaagag | aatgggtact  | taaaaaatta | caaacctgga  | 120 |
| gctagggcag  | agccgggatg | ggaaaatttt | gtacaaaacc  | attctgacaa | atactctctt  | 180 |
| tccaatcag   | ccacagcact | aatcgagcag | agtcacagag  | aacaaatagt | cctgcccggt  | 240 |
| agagagctgg  | gttggcgctc | ggttaaatta | gatgaggaca  | aaagcgactt | agctagagtc  | 300 |
| gctcgccttac | ttaagaccgt | gcgaaacaat | ctattttcacg | gaggcaagca | tgggtggtgcc | 360 |
| aactgggaca  | accagcgag  | gacaatacat | cttattcttt  | taagtaaagc | tatccttgac  | 420 |
| gagtttgctg  | cactaggaga | ctttgaggct | gactacaaga  | gaatttactg | a           | 471 |

<210> 71  
 <211> 1926  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |             |            |            |            |     |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 71   |            |             |            |            |            |     |
| atgcacatcg | taatcattga | agccccgggc  | aagctgaaaa | agctgaggtc | ccttctcccc | 60  |
| tcgattcgtc | ccgacgtgac | ctggcagggtc | gaggcgacag | ccggccacat | cagagacctt | 120 |
| cccgttcacg | ggcaggatcc | gcagatgctc  | accgtcggcg | tgggccagga | tttcaaaccg | 180 |
| cactaccaga | tcctctcggg | caaggaaaaa  | accgtcgcac | ggctgaagga | gctgcggcag | 240 |
| aaagccgtgg | aaatctacgt | cgcatcggac  | ccggatcgcg | aaggcgaaa  | cattggctgg | 300 |
| cacatcctcc | aagctgccgg | gatcaagaac  | tacaagcgcg | ttgccttcaa | agaaatcaca | 360 |
| aagtcacgca | tcaccgccga | actcagctcg  | ccgcgtcgcc | tggacctccc | gaaggtcgcc | 420 |
| tcgcaggga  | gccgtcgcgt | catcgatcgc  | ctgggtgggt | atctggtcac | gccagagttg | 480 |
| cggcgcgtag | tgggtaggcc | gaccaccgcc  | gggcgcgtgc | agtcgcgtgc | ggtgtacctg | 540 |
| gtggtcctgc | gagagcgggg | gatccgcgcc  | ttcacagcaa | tcaagcactt | cggggtggaa | 600 |
| ctgaccttcg | tttcgcccag | cgacggccgt  | acctggacgg | cggaatggga | tccagtgcgc | 660 |
| gtgtttgcc  | gcgaggaggt | cccgtatgtc  | caggatcgtc | aactcgcaga | actggtgggg | 720 |
| gctatacgta | atgtcatcgt | cgagacctgc  | attgatagcg | aagaaaccga | tgccgctccg | 780 |
| gcaccgttca | tctcctcctc | gctccagatg  | gccgcgggga | atgcgctgaa | gtgggtcacc | 840 |

|             |            |             |            |            |             |      |
|-------------|------------|-------------|------------|------------|-------------|------|
| gacaagacga  | tgaaggctgc | ccagcggtcg  | tatgaacagg | ggctcatcac | ctaccaccgg  | 900  |
| acggacaacc  | ccaatatctc | gaaggactcg  | atgccggata | tccgtgctgt | cgccaaagcc  | 960  |
| ttggggctga  | agtgtgttga | gcaacagcgg  | atgttcaaag | cggaccaaga | cgcccaggaa  | 1020 |
| ggccaccccc  | ccatcacccc | taccgactgg  | atggccgctg | ccgccggtga | aactgctgat  | 1080 |
| gagcaggcgc  | tgtaccagct | cattcgagtc  | cgcgcgcttg | ccagtcagat | cgaagctgcc  | 1140 |
| gtgtacgcag  | tgagaaccat | cacctctctg  | ggcgtcggcc | ccgacaaaaa | gccgctgcgc  | 1200 |
| ttcggcgcca  | aagggaagct | gttgaacgtg  | cctggctgga | gaaaactgct | gcaggggtgat | 1260 |
| gacgccgagg  | agcagaagaa | cgaaacgcct  | tcaaacccca | tcccgatccc | ggcgtggag   | 1320 |
| ccacgccaga  | tactcaaggt | ctacagcggc  | gaggtcctgg | agaagaaaac | cacctctccc  | 1380 |
| aagcgattca  | ccgacgccag | cctgggtggc  | gagatgaagc | gccgcgggat | tggtcggcca  | 1440 |
| tcctcctacg  | cctcgatcgt | gaagaacatc  | atcgacaagg | gccaggtgca | gatgaagggg  | 1500 |
| cgaagcctga  | tccccggcga | gctgggagag  | gccaccatcg | cgctcctgga | gcacaacttc  | 1560 |
| agcttcctca  | gcctcgactt | caccgcgaac  | ctcgaggtcg | ccttggaccg | gatcgccaac  | 1620 |
| agcgaggaca  | cctacatgaa | cgtgggtccag | cagttctacc | agctactaca | gacagagctg  | 1680 |
| cagacactcc  | gcgcgctccc | cagcgcacag  | gacgaaccac | gcgcaagctc | caccgccagt  | 1740 |
| atctcctcgg  | cgccgaccag | cgacttcctt  | tgcggcaagt | gcggtctgcc | cctgggttcac | 1800 |
| cgcaagaaaag | ccggcaaagg | cggcttcgac  | ttctgggggt | gcagcggcta | tcgaacaaca  | 1860 |
| gggtgcaagg  | ttagctaccc | caccaagagc  | ggccggcctg | acttcgacaa | cccgcgcggg  | 1920 |
| ctatag      |            |             |            |            |             | 1926 |

<210> 72  
 <211> 234  
 <212> DNA  
 <213> Pseudomonas aeruginosa

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 72   |            |            |            |            |            |     |
| atggatcaaa | gcctttgcac | atgcatgcca | acgccaatcg | tcaaccceaa | ggagctgcga | 60  |
| ctgtgccaca | tgtagtcgg  | tagaactttc | ccgataacat | tgatcgagg  | cgaccattgg | 120 |
| ttgagctatg | acggcagcgc | ctggtgggtc | gatgcggatg | agcccgcgac | ggaggacgag | 180 |
| gtggcggtc  | tgtaggtcaa | ggctggtggt | gtcactacgt | gctggtgcgg | atag       | 234 |

<210> 73  
 <211> 246  
 <212> DNA  
 <213> Pseudomonas aeruginosa

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 73   |            |            |            |            |            |     |
| gtggcaaggg | cttccgaatc | ggaaatctcg | accagtacga | ggtgcagtgt | gtcaaagaga | 60  |
| gcgaccgata | ccgacaagct | ggacagacga | cacttcaacg | atccccaccg | gactgtacgg | 120 |
| gctattggtg | ctgaggccgc | gcggaaaggg | ctacgggtgt | tcgactgccc | ctacagtcac | 180 |
| cctgcgatgc | gggcgtcctg | gttgaaaggg | tttgcccagg | agcagcaaca | gcagctcgac | 240 |
| ttctga     |            |            |            |            |            | 246 |

<210> 74  
 <211> 470  
 <212> DNA  
 <213> Pseudomonas aeruginosa

|            |            |             |             |            |            |     |
|------------|------------|-------------|-------------|------------|------------|-----|
| <400> 74   |            |             |             |            |            |     |
| atggctaccc | ccgtcttctg | ggaagccaac  | attggctcgg  | cgccggagca | ccgcagcttc | 60  |
| cccaacggca | acaatcccc  | gcggcagttg  | ctgcgactga  | acgtgatgtt | cgacaactcg | 120 |
| attcccgatg | gccaaaggtg | ctacaaggat  | cgcggcggct  | tctggtgcag | cgtcgaatgg | 180 |
| tggcatcagg | atgccagcgc | cttcgccgaa  | ctgttcacga  | aaggtatgcg | cgtaagggtc | 240 |
| gaaggcaggg | ccattatgga | ccgtggccg   | gacaaagagt  | caggcgaaga | agtccaggcg | 300 |
| ctgaaggctg | aagcctcgcg | catttcacatc | cttcgcgcatc | gcctggccga | ggtcaccctg | 360 |
| ttgccaaccc | agcatcaaca | gtctcgggaa  | gtccgcgagc  | aacctgctca | gcaagatgcg | 420 |
| caatcgcagc | aggactacga | cagcgccttc  | gacgacgaca  | tccccatgta |            | 470 |

<210> 75

<211> 534  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 75  
 atgcggcagc tcgataagga ccagcaaggc gctctggaac aaagtgcctt ccgcccactg 60  
 caacaaactg ccttccaggc gctgcaacac agtgcctcac taaaaggcct tttaaagcct 120  
 tttaaaggta atagggagct ggcccagttg gcggaacagt gcgaagccat ggagcagga 180  
 ttgcttgaac ttgcccaggg actgctggcc caggttcgtc gccaccctt cactctactg 240  
 cccaccgac tcatcgagca gcgcacatcc gccgcacaa cttttctccg ctggcagcac 300  
 attgcatccc ggcggatggg cgtcgggggtg tggacggaaa tgctgcgcca ggacaagacc 360  
 ccggaatacc tgctgcaaga cctctacgag atggagctgc agcgcacac cctcaacatg 420  
 cagatcagcc tgatccactc catcggcaag caggccgccc agtgcgcgga aaagatgggc 480  
 caggccgagg ccgagttcat gggccgactg cagcagagca ccaaccacca ctga 534

<210> 76  
 <211> 729  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 76  
 atggctgaaa cccatcggtt tcagatcggc tctctccgca gcgatgtcgc tctgacgctt 60  
 cacacctatc acgccgcccg catctggacc ggccggcaga agtcggatgc caagcacagc 120  
 atcctcggcc tctccggctt ctgcgcatac gtgaatcgca tgcaccgagg ggcagcacag 180  
 gacgatccgt actccgactg gtggctgggt cagatcgaaag agaaagtcga gagctgccaa 240  
 gccgcactcg aggccatcga ccagcgactg gatgacgtca tggccaagct gcccgcgacc 300  
 ctcgatatct ccgagaacct gtccgtttaca ccggtcaagg tcccgttggt catctccaac 360  
 cctctcggct tcaaggcagt ctatctcctg accaactacg acgaactcgc ccgtcgaatc 420  
 ctgctggccc agcacgtcgg gctggtcggg cgcgcgcaca tggaggtctg gctcgacgaa 480  
 ggtgcgtcgg tgctgcgaag cctgtttggt ctggcccaga gctaccagtt ctcgggcgcc 540  
 actcgcgacg acttcgcgc aaacaatgct cgcgcggaag ccgcgcgga gatgtacgag 600  
 aagttcggg agatcccgcga ggacatcctg gagggcactc gacgctcgaa cttcgtctcg 660  
 ccgatcacc ggggccgctc tgacggtgat gccgatgatg acgctgaccg tgtcgaactc 720  
 gaggactga 729

<210> 77  
 <211> 240  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 77  
 atgttcttga gcatggcccc tttctttttg gtcgtttctg ttctttctgc actttttaca 60  
 gatgcgtgga acgaccgaga actcaggctg ttgttaatgc tgatcgtgtt cgggtattca 120  
 gtaaccgtgt tgaccattac ggttgagatg tatcgctttg aaatggcgga aaaagcgatg 180  
 tggggagctt tatgcaacaa agccaactac atgaactgcc aaccagatta ccaacggtag 240

<210> 78  
 <211> 276  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 78  
 atgagaaagt ctcggtcggg cgtcgtggtt tttggtgatg cggcccgcac cactctccca 60  
 ggtcctgacc tccgcgcgc cggcgagctg ggtgattcca ctggaatcac tccaccagga 120  
 gccgacctcc gcgcgcgcgc cgagctgggt gattccactg gaatcactct gccagggatc 180  
 cacttcggta tcggcggcaa gatgggtgtt tcgggcgcaa acacttcgcc aaagcgaggc 240  
 atcaccactc acgaggaact caaacaatgt tcttga 276

<210> 79  
 <211> 1326  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 79  
 atgaggctgt cgcgctttcc catttcgaca ctgctggact cggcctcggg gcattctcgag 60  
 gccatttgt ataagaagcg gcttgctgcc gaaagcggcg aaccgctggc tcaacaatat 120  
 tccggcatca ttttcagcgg caatcctcat gaaaccgttc cacggcgcct cctcctggat 180  
 aagcgtctta ctccgctgga gcggaactgc tggcaagttt tccgcttgct catcaacgac 240  
 gacggactga ccgcgttccc gacatacgag caactgcgcc cctatctcgg tatgcagccg 300  
 ggcaagatcg cctcgcgcga aaccatcgcc aaggcactca cggtccttcg tctgaccgcg 360  
 tggctcagcc tcggccgacg cctgcgcaac gacctcaacg gacaggtcca gggcaacggt 420  
 tacatccttc acgacgagcc tgtctctcca gccgaagcct tggagctgga caccgactac 480  
 atgcagttgc tgagccaatc caccggtcac ggcaaccgag ccatacgca aatcgggagc 540  
 atcatctggc gggagttcag ggatgatccg gacgtgggtc gccgcctccc taccatctg 600  
 gagaagctcg agggacgctt gaaccaccag caatgggcta tcgatagtca gctcgaagcg 660  
 gatccagcgg cagagttcgg catccgaact ctgtcggatt tacctcattc caccctcaggt 720  
 tcggatgccg aactcagtga aatcagcggc aagcaatgcg ctctaccgct gaggttcggat 780  
 accgaacccc gacagaatcc gccgagtacg cccttggttc ggatgccgaa ctcatatagt 840  
 acgtatacat acaacaaga ttctgtatgt aaaaagccag tacaaccgcg agcacgcgag 900  
 gaagcccatc cgaactggca ggatctcctg cagcactgg aggccgagca acggatccag 960  
 gcagtaagcg cgctcagacg ggtgtccgag gatcttcggc taccatcat cgagcagtg 1020  
 cagcaccgtt gtgccggcgg aacagtcagc aatccgttcg gctacctcat gacgctcatc 1080  
 cagcgtgcag tccagggcaa gttcaacgct tcttgggctc cggaagaacc ggctgagcga 1140  
 accatccccg caacggaaacg cccattcgt gctccggcac catcaagccc catagcgct 1200  
 acacagcctc aggtccagcc ccggggggat acccgacag ggagcgaggt cctcagccgg 1260  
 ctcaaggacc tcattcggcc caggcacgga tcgagcgtgc catccgagcg gggatgatgat 1320  
 tcatga 1326

<210> 80  
 <211> 768  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 80  
 atgtcgaagt cgacgatcaa tgaagcggtc ctgacgcagg tgctcaacca cctgcgcaac 60  
 ggccagctca ggcgttgtgc cgagatggg ctgcggccgg agattctggc tcagctccaa 120  
 cagcctgccg tcatgagcat cctgaccaat accccggttt cctgggtaga tgtcagagtg 180  
 aacatcgacg tcatggagaa aatcctggcc acagccgagc gcagcgcgca ggaagacctg 240  
 cagatcgaac gcgcactgaa gctgggagcc accacaacga tgatccagag ctttttcggt 300  
 ctgtcgcggg aggacaccgc caccaagcgc ttgatgctgg agatccacc gcgcgcgggt 360  
 cgctggcggc agctcgatga acagatcgag cgccagatat gggtccgctg ggagcacctg 420  
 atgcaggaaa atcaggtccg ccttgaagac agcatggagt tgctggacat cgcgatgatc 480  
 ctacacagag aaatcaacgc cggaatcgaa caagacagtc cagaattcat cagcctcgcc 540  
 attgtttggt ctctcatcca gagctgggtg aaagacgggc tctatccgtc tggcaaatcg 600  
 agccagagcc aggcgggctt gcaaaagtcc caatccactc ttacctcgc tagcgtcagc 660  
 tcacacctgc cccactctgc cccatccgca acaacgcagg tgaacgctga gacagaacgt 720  
 caacaactac tgaacctggt tcagtcggaa ggcgacacag caccatga 768

<210> 81  
 <211> 1740  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 81  
 atgagtatgg ccaagatcaa cccgcaagat ctgaaagacc ggctacttgc ccctggtttt 60  
 accgcaccgc ccaaggttct ggagcagttg tcggaccgca tcagcgacac gcccagtagg 120  
 ctgacactcc acgacgtcct cccctggcac gataaccccc ggaccactcg aaaccgaaa 180

|             |             |            |            |            |             |      |
|-------------|-------------|------------|------------|------------|-------------|------|
| tacgatgagc  | tgaaagaatc  | gatccgacat | cgaggcctcg | atacgccgcc | accagtgact  | 240  |
| cgacgccctg  | gagaggacaa  | ataccgcatt | cgcaacggcg | gaaacactcg | cctggaaatt  | 300  |
| ctcaacgacc  | tctacaaaga  | gaccggagac | gagcgctatt | tcagcttcga | ctgcctgttc  | 360  |
| aagccctggg  | acaagcagcg  | cggcgaaatc | atcgcgctga | ccggtcattt | ggccgagaac  | 420  |
| gatctgaagg  | gcgacctcaa  | gttcatcgag | cgcgcggttg | gggtgcagaa | ggcgaaattt  | 480  |
| ctttacgaac  | aagagaacgg  | cggtgaaagc | atttcccagc | gcgagttggc | acgtcggcta  | 540  |
| aaagcggacg  | gctaccctgt  | atctcaatcc | catatcagta | agatgttaga | cactattgag  | 600  |
| gtattggcgc  | cggcgattcc  | tgtgatgctg | tattcagggc | tcggtaaacc | gcaaaticgag | 660  |
| aaactcctgt  | cactcagaaa  | gtcggcatcc | tcctgctggg | cacgtctata | cgctggtgaa  | 720  |
| ggggttgact  | tcgaaatgct  | gttccaggac | accctggcaa | tcttcgacag | tagccctgac  | 780  |
| gaattcattt  | tcgagcgttt  | ccaggacgaa | ctcatcgacc | aatgaagcg  | ccccctgggc  | 840  |
| ctgcgttatg  | accaaactct  | gctcgagatt | accaacgggc | agcaggagca | acgccgcggc  | 900  |
| actctggctg  | acctgcccac  | acctgccgca | ccacctcaac | tcccaccaat | tgggcaggaa  | 960  |
| aacctgctg   | cgctcgtctac | tggacaagca | caaacacaga | gccccgcgcg | agatcccaa   | 1020 |
| acgtccagga  | caaggagcaa  | cccgggtaat | ccccctcccc | cgccggctcc | gccaccacct  | 1080 |
| gtccaacaaa  | agcaattgcc  | cgatgaggag | cgtgcggcgg | tcttggcagg | ccatctcgtg  | 1140 |
| agcccggtat  | cgactaagat  | ccagcagact | cgccaacggc | tggccggcct | cgagggggaa  | 1200 |
| catctacctg  | tcttcgatga  | aacagctctg | caggcaatcc | cagtgcaggt | cggtggcctg  | 1260 |
| cacccgatca  | ccgatctctg  | gtacatcgag | cggtcgatcg | ataccccga  | gatectgcga  | 1320 |
| cagcacatcg  | ctgatctggc  | tgaagagatc | gctctgcatg | tcggcgcccc | aggcgagatc  | 1380 |
| gtcaggattc  | agggcggtgt  | gggttacacg | tatcgcgagc | ccaatgaaga | ccatgagatt  | 1440 |
| actgattcag  | cgctgcacct  | catgacgctg | cttcaagcgg | tcagcgggca | ggtccaagtc  | 1500 |
| gttctgaaca  | ctcacgatca  | acagacctgc | cgcgatgcac | tgggtgaatt | ccagttctca  | 1560 |
| gctggcctcg  | ctcagttgct  | gctggggcaa | cccaccacaa | gtgacaagcc | atcctgccag  | 1620 |
| gcaggccgct  | tcaatgacga  | agccctgggt | aaactgttcc | ggatcattcg | tcttgcccga  | 1680 |
| cgccctgggtg | accttgagct  | gccgcgggcc | gcctccgagc | aagcagctac | tgaccagtga  | 1740 |

<210> 82  
 <211> 255  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 82   |            |            |            |            |            |     |
| atgaccatgg | cccagaaaac | cgaagataag | ttcgttgtcc | gtatgccctt | gggcttgccg | 60  |
| gatcagctaa | agcaaaaagc | cgcgataaac | caccgttcgg | ccaacagcga | gatcgtctac | 120 |
| cgactggagc | gcagcaacgc | gctcgaagaa | gaactcgcgc | gagcaaaccg | aatggctcac | 180 |
| gaactcttcg | ccaagaacca | gcgcctgcag | gctgagctgg | cggcggcgaa | cacgcctcag | 240 |
| gtggcggagg | catga      |            |            |            |            | 255 |

<210> 83  
 <211> 1017  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|            |            |             |            |            |            |     |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 83   |            |             |            |            |            |     |
| atgcctatca | aacacgccat | cgtccacctg  | atcgagaaga | agccccgacg | cacccccggc | 60  |
| gtgctccacg | cgcgcgacgc | cgagctgggc  | gactcccagg | ccatcgagaa | cctgctggcc | 120 |
| gacctcaacg | aaagctacaa | cgccaagaac  | aaggcctggg | gcttcttcca | ggcgagtc   | 180 |
| ggggcctacc | cgttcagcgg | ctggctcggc  | gagtacctgg | agggcgaccg | cgacttcgtc | 240 |
| ggcttcagcc | gcgaagcggg | cgagcacctg  | caaaagctga | tggaggagtc | caatctcttc | 300 |
| accggcggcc | acgtcctggt | cgccactac   | cagcaaggca | tgaccgacta | cctggcgatc | 360 |
| gccctgctgc | accacagcga | aggcgtggcg  | gtgaacgagt | cgctggaggt | caccccgctc | 420 |
| cgccacctgg | acctcggcca | gttgacacctg | gccgcgcgga | tcaacatttc | cgaatggcgc | 480 |
| aacaacaagc | agtcgaagca | gtacatctcg  | ttcatcaagg | gcaagggcgg | gaggaaggtc | 540 |
| tccgactatt | tccgcgactt | catcggtctg  | caggaagggg | tggattcgcc | gagcgagacg | 600 |
| cgcacctctg | tgaaagcctt | cagcgatttc  | gtggaaagcg | aggacatggc | cgaggaacag | 660 |
| gccccgcgga | agaccgagac | gctggctcgac | tacgccacct | cgcaggcgcg | catcggcgag | 720 |
| ccgatgaccc | tcgacgcgct | ttcggaactg  | atggacgacc | agcaaccgcg | ggcgttctac | 780 |

|            |            |            |            |            |            |      |
|------------|------------|------------|------------|------------|------------|------|
| gactacatcc | gtaacaagga | ctacggcctg | tcgccggaaa | tcccggcgga | caagcgcacc | 840  |
| ctcaaccagt | tcgccgctt  | caccggccgc | gccgaaggcc | tgatgatcag | cttcgaggcg | 900  |
| cacctgctgg | gctccaggat | cgagtacgac | gaggagcgcg | acacgctgca | gatcagcagc | 960  |
| ctccccactc | aactccgcga | ccagctcaag | cggcgcaagg | cccaaattgg | agaatga    | 1017 |

<210> 84

<211> 234

<212> DNA

<213> Pseudomonas aeruginosa

<400> 84

|            |            |            |             |            |            |     |
|------------|------------|------------|-------------|------------|------------|-----|
| atgcgtagtt | tccttcgcgg | cgcccgggaa | agcggttcgcc | ggctggtggc | cttcgctcaa | 60  |
| gcagaaggct | ggagcgctga | ccgctccgca | ggcggccact  | tgaagctcag | caagatcggc | 120 |
| tgcgcctcga | tcttcatttc | ttccacgcca | agcgacgcac  | gcggcgagct | caatgcccgc | 180 |
| gccctgctcc | gtcgagccga | caggcagcgt | tcctgaacc   | aggagtcttt | ctga       | 234 |

<210> 85

<211> 495

<212> DNA

<213> Pseudomonas aeruginosa

<400> 85

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| atgcctgacg | tcacagccta | cgggccgctc | gagcacttcc | agaaagtcga | gctgatgctt | 60  |
| gagctcaagt | tgcgtagaag | tccttcgtgg | atctgtctga | actgcggcta | tcacctggat | 120 |
| ggcagcggcg | cacagccctg | ccctgactgc | ggaaagtcgc | gctactggac | cagcggttgg | 180 |
| agtgtaggtc | gtggccatcg | cttctcggca | gcaagggaag | agtgggaaaa | ccgcctcagg | 240 |
| acacggtcgc | ggtcacctgt | cgcgtcaacg | gcaccagtag | caactgacga | cgtatgact  | 300 |
| caactgcgca | cagaggtccg | catgctgcgt | tcgcgcgatg | acgacctggc | ctgcagccgg | 360 |
| cagagcgatc | gtcgcagcct | tcaggcgctg | gtgaaacgtc | tcctggatgc | cgccgccacc | 420 |
| gatagccttc | cccgtccct  | tgcagagatg | gagacctggc | tgcagctcaa | cagcgaggag | 480 |
| accacgaatg | cgtag      |            |            |            |            | 495 |

<210> 86

<211> 258

<212> DNA

<213> Pseudomonas aeruginosa

<400> 86

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| atgaaggcgt | cccagaccta | tcagtgcate | gtcaagttcg | atggcgccgg | tttctggacc | 60  |
| aataccattc | agaagcagcg | tgcgacctgc | acctggagcg | acaaggtggc | agcctcccgc | 120 |
| cttgccgaac | gactgtttgg | cgaggacaac | gcatacatca | cccgtatgcc | ggtacaggca | 180 |
| ggcgaccacg | aaaagcgcat | cgagagccgc | tgggcgctgt | cctgtagaaa | tcccaaggag | 240 |
| gtagcgcgcg | atgcctga   |            |            |            |            | 258 |

<210> 87

<211> 528

<212> DNA

<213> Pseudomonas aeruginosa

<400> 87

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| atgaacactg | aagcccgttt  | tcgagtatc  | cacgcctcgg | ccgcgttcac | cgactcggca | 60  |
| gtgggttcac | ccaatcacgt  | tggggtcaac | cccatcgagc | tggacgccct | cagccaagtg | 120 |
| atctcgcgcc | tttcgcggga  | cgagagcacg | gtcgcaccca | gttcgatgga | gcgagagctt | 180 |
| cgtgagctgg | aggaactggg  | gtacatcgaa | atctcgacca | cccaggccgg | gactctgggt | 240 |
| gtcactacgc | gcgctccggg  | gcaattgctt | tcggcttact | tctggtcggg | atggatcccg | 300 |
| cgacacctgt | tcagctgctc  | gctgaaagtg | agcctggtgc | cgcacctctg | ctgcggcact | 360 |
| caggactccc | agcacctcac  | cgccgtgttc | cgcatctcag | gcagcaagga | cgccgcgcgc | 420 |
| gagttcctgc | atcagttggc  | caacaactat | cccgggcgat | agccggagtt | gcccgaactg | 480 |
| gtggccgttc | aggtcgggtga | tgcactcagc | aaggaggccg | agtcataga  |            | 528 |

<210> 88  
 <211> 1363  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 88  
 gtttctgcag atcagccggg aggactcgaa gtgagtgttc tggaacttac gccgccgcac 60  
 tccgtcgagg cggagcaagg ggtactcggc ggcctgatgc tggacaacgc ggcatgggac 120  
 attgtcggcg atcagttgca gaaggaggac ttcttccggc atgagcatcg gctgatcttc 180  
 accgccatca gcgagttggc cgcgaaggat gctccgtttg atgtcgtgac tgtgtcggaa 240  
 gcgatcgaag accttccaga agctggcggg ctggcctacc tcggccagct cgccgacaac 300  
 acgccctccg tggccaatat cgaggcttac gcgcagatcg ttcgcgatcg ggcacacctg 360  
 cggcagctga tgtctctcgg gcaccactgc accaggaccg cctcgaacca ccaggcaaat 420  
 ccctctgagg ttcaggagga gattgagcag aagctgttcg gcccttggcc aggaccacca 480  
 caacgccgat ttcgtcgata tcaacaagag tctcacgaag atcgtcgaca ccatcgatta 540  
 ccgcttcaac aacaacgtga cggtaacggg ggtcccact ggctgaagg atctcgacgc 600  
 actcaccggc ggactacaga agtcggatct catcatcgtc ggtgcccgcc ccgcgatggg 660  
 caaaacgtcg tttgccctca acctggtcga caccgcgctc cagagcgacc aacagaagtc 720  
 tgttcagggtg tacagcatgg agatgccggc agagcagttg ctgttcaggc ttgccgccct 780  
 gttcggccac ctggacctgg gcaagctgat gaagggccaa ctgcaagaag aggattggcc 840  
 cagactgtct ggcgcgatcc agcgcataaa cgactatggc agccggctgg tcatcaacga 900  
 tcagggcaac ctacgcgga cagagctgcg cgccaaggtt cgccggggcg ccaggaagta 960  
 cggacacccc gcgctgatat tggtcgacta cctgcaactg atgagttgcc caggcctgga 1020  
 gaatcgagcc accgagatct cggaaatctc ccgctcgtg aaagcgtgg ccaaggagat 1080  
 ggactgtccc gtcgtagctc tatcccagct aaatcgcggc ctagagaacc ggacgaacaa 1140  
 gcgaccgaac tgcgcggacc tacgagagag cggcgcaatc gagcaggacg cggacgtgat 1200  
 catgttcgtg taccgcgacg aggtctacca cccaacacc gaggccaagg gcatcgccga 1260  
 aatcatcatc ggcaagtatc gcaacggctc gatcggcacc gtccacaccg ctttcatcgc 1320  
 caaccagacc cgctttgccg acctggcgcc ggggacctgg caa 1363

<210> 89  
 <211> 708  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 89  
 atgactcgct ctgctctctc gaccatcgcc tacgaggccc tgggtcgtgc ccgccgcaa 60  
 ttcagcaacc gagaggagcg ctgcatccgc gaaacctgga ccgccgaaca ggaactggtg 120  
 ctgctgcgcc tgtatccgga tatgccgaac gaggtcctgg cagccaggtt gaacaaaacg 180  
 ctccagcaga tctgctccag agcgtatcgg ctcgggctga aaaaaagccc tgagttctcc 240  
 aagaagatca ggcaggactg gggcagcgca actcggttca agaagggaac caccctatgg 300  
 aactcgggca tgaaggggct gccgcgcgca ggacgcgcac cagaaaacgca gttcaagaag 360  
 gggcaaaagc cccacacatg gctcccagtc ggcagcacgc gggtcagcgc tgatggctac 420  
 ctgcaacgaa agatctcgga taccggctat ccccccggg actggaaggg catccacatc 480  
 ctgctctggg aagaacactt cgccccatc ccaaccggcc attgctctg cttcaaggac 540  
 aacaacaagc agaacgtcgt catcgacaac ctggagctca tcaccggggc cgaacgcatg 600  
 cgccgcaact ccatccatcg ctatccacct gagctgaaga gcgcaatccg cgtcatcagc 660  
 aagctcaaac gcaccattca ggaggtcgag catgaagaac aagattga 708

<210> 90  
 <211> 702  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 90  
 atggacaagc aaaaagtctt cgccaaggtc gagaagctga tggccctggc gaatgccaa 60  
 ggggccacgc cgaacgaggc ggaaaccgca ttgcgccagg ccgcgatcct gaagcggcag 120  
 ttcgacctca gcgatgcgga gatctcggcc cacacggtgg aaaccgcgtg cgttccact 180  
 cgaaccaggc gctctcctgc cccatggctg catgaactgg ccgggatctg cgccagttcc 240



```

ttcggctgcg actacctggc ggcatacgcg atgccagcgg gctggacgtt caagtccatg 300
ggccgagggg tgcggccctga gctggccgct cagccctact ctacgctcca ccaccaactg 360
gtggcagcgc gctcggctca tgtcgcccaa cagaagcgct gcaagctgtc gaccaagcgt 420
cgtcgcagca agctcttcgt cgaaggctgg cttctcgag tgcgttcgct ggtacgtgaa 480
tttgctggca ggccggacga gtcgactcaa gcagccatca aggcctacct cgaactacac 540
catccggcgt tgaagtacct ggagccggcg gcgcttacga aggccttgc ctatgaccag 600
gcctcgctgc aagcaggctg ggagcacggc aaaaacactc gcctgcaccg cgggtgtcagc 660
cggcgagttc agggcgcgct cgagcagggg ggttcccaat ga 702

```

<210> 91  
 <211> 687  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

```

<400> 91
atgagtgacc ccaagctcaa gccctgcccg ctctgcggca gcacgaacat tcgaatgctg 60
gaacccgagc tgctcgacac cgatgcctgg aactgtgcc a ttgaatgcct ggactgccag 120
gttcacatcg ggccgtccta ctgcgagcca gaccggtaa cagcgaggta ttcagcacag 180
atcgactgga atagacgccc aagcgcaaaa aaccacgcgg acgagcgtga gcagttcttg 240
atggccaacc tgctcgccgc cctggagggtc gcaactggcg acgtagcagc cctggctatt 300
gtcgatcggg taagacaggc cacagaccga atttacccaa cttcgaacct ctcccctgtt 360
ccgcaggcct ggctcgatgt acaggccgag cgccggcgcc agatcacctg cgaaggtttc 420
gataccagca acgacgacgc tagcgctggc ctgatcgccc tggcgggcgg ctgctacgcg 480
ctccatgccg gcggcatcgg caccgactgg ccggggcgga ttcggaatgg ctctgactg 540
ttctggccct ggagcgaaga gtggtggaag cctaagtcgg cgcgcgagaa cctggtacgc 600
gccggcgccc tagtgctggc cgagatcgag cgctggacc gctccgccac cgagcagggc 660
tcaaccatct gcaagggggg cgcgtaa 687

```

<210> 92  
 <211> 498  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

```

<400> 92
atgaacctcc agaaccgcaa caacctccta ctgagcttga tcgccgagac ccagttcgac 60
gcctacgtgc aaggctacat ggccaaagca ggcgtgccc cggtgcttc cgagaatctg 120
caaatcgagg ctgaagggtg tgcgatgttg cagggcctgg tcgctccggt tcgcgctcag 180
cagcgtgcct gtggacagtc cctgcagaac gcaactgctc aaatcgccca cgacctactg 240
ttgcagacga aatcgcaact ggccatcgcg gccaatgcc a gttcgatcca agtgatccag 300
cgggacatga acagggcgat ctggaacata gctactgcc a tcgatcacct ggccgagttc 360
gcccacacct cgcaggacac tgtgagggtc atcgaacggc tgatgctctt cgtcggcagc 420
tcatcaagca ctgaaggcca gcaactggcc gccgaggcaa atgcggtgct cggcatgagc 480
gtgggaggcc tggcatga 498

```

<210> 93  
 <211> 681  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

```

<400> 93
ctgaacaagt tcggcagcgc cgccgacctt cggagccagc aggccaaatt gaccggcgct 60
acgcgagaaa tacgcaagct gactggtggc ggtatcgacc tgttcgggaa gctgggttgc 120
tacttgagct tcgaacaaaa gcagctccta caagacgcag cgcgcttgct cgactcgggtg 180
aacaagcaga tcgagcatgc gaaggaaaag cgtgatcgct acgagaaaaa agccaagaag 240
cggcgcgagc tacgtgagcg cctggccaag caactggtcg cctcgaacta cccgcttccg 300
ggaaatacgc tcgaagatcg gctggaaatc ctgcagatcg cgttgatcta caaccgggccc 360
aggggtgttc atcacctgta ctccacgcac cagctccact caaaactcaa acgctggctg 420
gagcgtccaa agcagctcat cggatggcgc agtgaagccg agtatttcgc tagtcagggtg 480
gggagccctgc gatgtgactt cattagccat ctgactaacg aaatcgcgta cgacgatggc 540

```

agtgaaagtgcg aggagcgcct gcgcgtcatc aagcagaagg tcgctgactg caccgcacag 600  
 atcgctctga ccagcgagga gcaggaaacc cttcggctct ggacagacgc tctgcaatcg 660  
 gctccggagg gcctcatatg a 681

<210> 94  
 <211> 930  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 94  
 atgaatgcga aagcgacttc ggttgtatcc accaaggggtg gtgtaggaaa atccaccacc 60  
 gccgcccaacc tcgggtgcatt ttgcgcgat gcaggcatac gaaccctcct catcgatctg 120  
 gaccccgctcc agccctccct atcctcgtae tacgagctgc cggaagttgc ccagggcggc 180  
 atttacgacc tgctcgccgc caacataacg gaccggcgga ggatcatctc caggacgatt 240  
 atccccaatc tggacgtcgt gatttccaac gaccagaaca atcagctcaa caacctactg 300  
 ctccaggcgc ccgatggccg gctacgcctg gcgaacctga tgcccgtctt gaaagaaggc 360  
 tacgacctgg tgctgatcga caccagggt gcgcgctcag ctttgctcga aatggttgtg 420  
 cttgcatcgg acctggttgt tccccccctc caaccaca tgcttaccgc ccgtgagttc 480  
 aaccgcggca ccatgcaaat gctcgacggc ctacgcccct atgagcgtct cggcatgcgg 540  
 atccccaatg ttcagatcgt catcaactgc ctggaccaga ccaatgactc ccgggcaatt 600  
 cacgagaatg tgctgcccatt cttcgatgag catcaggaca tttctgtgct cgaaacgact 660  
 gtcccggtatg ccgtcgttgt tcgcaacgca gcatcgcgcg ggctaccagc gcaccgcctc 720  
 gaaacgcggc aaccctccaa tcgcacatca gcgcccgcgc tggaaatcat tcgaaacctg 780  
 gccatcgagg tctttcccgga gtggactgac cgcttctctg cgctgacgcc gggaggcggg 840  
 tgacgactg gtcaaggag ggcgctgaca tggcgaagac tcctatcacc caagcccgcg 900  
 acgtcgacgc ggaacttgtg ctggaactga 930

<210> 95  
 <211> 322  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 95  
 atggggatct accgcccga gacgtctcgc ctagcgatac cgatactgag gggccggcta 60  
 ccggacgaaa ggtagctgcg cctcccagca gttcgctagg cctgtaggaa aaatctggaa 120  
 ttaccgagag cgcttgatt ccagcgccgg catgctggca gagccccgca atttcaaggc 180  
 cgaaaccgca gtacctctg taatogctga ttacgtcgag ggcacattgc tacgcctgca 240  
 gaatggtttc agggcctgaa aaacagaaaa gccaccta ataggcgggc tattccatat 300  
 tgacatcacg tcaatgcggg cc 322

<210> 96  
 <211> 1281  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 96  
 atgacgccgc agcagctcac cgaggagtag atcttcgcgc acgatctccg agaagccagc 60  
 gcgaagatct accgcgcgc gaccaaggcg ctgctcaagc acttcggccc tacggcaacc 120  
 gtacaggagg tggaccacag gtctgtgctg ggatggcggc gcaaggctct ggaacaaggc 180  
 ctgtcgaagc ggagctggaa cactgattcg aatcatctgc gaacgatctg gggctatgcc 240  
 atcgagcacg agctggtgac aactcccaa gtcaaccgtt tcagaaagac caccgtcatc 300  
 cccccaggc gagcaagcaa aaccgtcgca gccgaagcca tcttgcgcgc ccgcaattgg 360  
 ctcaacatgc aggtcggcgc cgagcgctgc actggcgatc gcgcacgcac cactcccgc 420  
 tgggttctggc tttgcacgtt tgaggtcttc tacttcaccg gcatccggtt gaatgcgctg 480  
 ttgtgcatcc gcaagcgcgga catcgactgg gaaaatcaac tgatcctcat ccgcggcgag 540  
 acagagaaaa ctcataaaga gttcgtagtg ccaataacgg aggggcttgt gcctcaccta 600  
 tcgcggtctc tgcaggaggc cgatagagcc ggattcgccg atgacgacca gttgttcaac 660  
 gtcaaccggg tctcaccgca ctacaagagc aaggtgatga actccgacca ggtcgaagcc 720  
 atgtaccgga agttgaccga gaaggttggg gtgcggatga ctccgcaccg tttccggcac 780

|            |             |            |            |            |             |      |
|------------|-------------|------------|------------|------------|-------------|------|
| accctggcca | ccgacttgat  | gaaggcacc  | gagcggaaca | tccacctcac | gaagtgcctg  | 840  |
| ctcaaccact | cgaatatcca  | gaccaccatg | agctacatcg | aggccgacta | cgaccacatg  | 900  |
| cgtgccgtgc | tgcattgccag | aagcctggcc | caaggagcgc | tggagaacgt | caggaagggtg | 960  |
| gattacagcg | gctccccgca  | agcctctgcc | aaaccgaagc | catgcgggca | acctctcgct  | 1020 |
| cgaatgggtg | aagcgccgcc  | acaggaggct | aggacagaac | ctgcagaacc | aagggagcac  | 1080 |
| acaccaggga | caggcattca  | gggagatgca | accgcgtggg | aagaagcgct | accacagcca  | 1140 |
| cctgacacct | tcgagcaaag  | cgtgctgttc | actctgatgg | ctcaacacct | atcgaaccgt  | 1200 |
| gccgccacgg | cctccgcggc  | ttccaccgca | acaagcggat | ctggaggatg | gggatctacc  | 1260 |
| gcccgaagca | gtctcgccta  | g          |            |            |             | 1281 |

<210> 97  
 <211> 378  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |             |
|-------------|-------------|
| <400> 97    |             |
| atgaaatctg  | gtatcgcgac  |
| ccgtcgcctg  | ttcatcaacg  |
| acaccaaggc  | tttgggtgcat |
| 60          |             |
| accgtcgacg  | ggaccgccat  |
| gctggtcacg  | ccaggaatct  |
| tcaagcgta   | tgtccaggag  |
| 120         |             |
| catccggagg  | ttgaaaagct  |
| ggcccaggcc  | aaggagaccg  |
| ccggctggaa  | gctgggtgcag |
| 180         |             |
| cgcgcgttcg  | agaaacaggg  |
| tcttcaccga  | aagaccagta  |
| agaacctgaa  | tatctggacc  |
| 240         |             |
| atcaaggttt  | ctggctcctg  |
| caagacgaaa  | gagctcaagg  |
| cctacctgct  | ccaggatccc  |
| 300         |             |
| aaattgctgt  | tccctgtgca  |
| gcctctggac  | aacccaagcc  |
| tcacggtcat  | caccgatgcc  |
| 360         |             |
| gaaggagggtg | tggaatga    |
| 378         |             |

<210> 98  
 <211> 843  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |             |
|-------------|-------------|
| <400> 98    |             |
| atagaccagt  | tgagtgcgca  |
| ggagtcgggtg | gaagtggctt  |
| gctcagcttt  | cgatgtggcg  |
| 60          |             |
| cggtcttgct  | actacgtcca  |
| ccgtcttcga  | cggcggcgtg  |
| tcgatgctcg  | ccgcgtggcg  |
| 120         |             |
| ctacgcagcc  | aagtcaacca  |
| gttggttcagc | cagagtcggg  |
| gctcggccgg  | cagccgcagc  |
| 180         |             |
| attctgggca  | tgctgcgcga  |
| agagggcgtg  | accatcggcc  |
| gtttccgagt  | gcgtcgggtg  |
| 240         |             |
| atgcgtgagc  | tgggcctggt  |
| cagcaagcaa  | ccgggctcgc  |
| acgcctacaa  | acaggccacg  |
| 300         |             |
| gttgagcggc  | cggatatccc  |
| gaatcggctg  | aaccgcgaat  |
| tcgcgaccga  | gcatcccata  |
| 360         |             |
| caggtgtggt  | gtggcgacat  |
| cacctacgtc  | tgggcgcaag  |
| gccgttgga   | ctacctggcc  |
| 420         |             |
| gcggtgctgg  | atctgctgat  |
| cggctgggcg  | ttctcggcca  |
| agccggatgc  | cgaactgggtg |
| 480         |             |
| atcaaggccc  | tgacatggc   |
| ctacgaacag  | cgcggcaggc  |
| cacagcaggt  | gctgttccat  |
| 540         |             |
| tcagaccagg  | gcagccagta  |
| cgccagccgc  | ctgtttcggc  |
| aacggctctg  | gcgctatcgg  |
| 600         |             |
| atgcagcaga  | gcatgagccg  |
| tcgggggaat  | tgctgggata  |
| actcgccgat  | ggagcgcctg  |
| 660         |             |
| ttccgcagtc  | tgaagtcgga  |
| gtgggtcccc  | tcaacgggtt  |
| acctgacggc  | gcaggaggcc  |
| 720         |             |
| caacgggaca  | tcagtcatta  |
| cttgatgcac  | cgtacaact   |
| ggatcaggcc  | gcatcaattc  |
| 780         |             |
| aacgacgggt  | taccacctgc  |
| ggtggccgaa  | gaaaaactca  |
| acccactgtc  | cgggatgggt  |
| 840         |             |
| tga         |             |
| 843         |             |

<210> 99  
 <211> 285  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

|             |             |
|-------------|-------------|
| <400> 99    |             |
| atgttgatt   | tttcttgcag  |
| tatgaagatg  | ggtgggttggg |
| tcggatatag  | gtacttctct  |
| 60          |             |
| ctattttctt  | taattgctct  |
| catctatggg  | tgtgtcgggtg |
| gtggagggtg  | atcggtatgag |
| 120         |             |
| attgggcagc  | actgctttga  |
| gagagagcaa  | aagctttccg  |
| gagttaatga  | taatgaagag  |
| 180         |             |
| gggagtgtga  | ggttgaatcg  |
| gctgaactgc  | gatccaattg  |
| aaggtcgtgt  | tcttgaatca  |
| 240         |             |
| gagaagctga  | taagaaagcc  |
| gcccgaatgag | ctgggtattc  |
| actga       |             |
| 285         |             |

<210> 100

<211> 624  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 100  
 atgaaaaaat cacttggtat gtcggctgtg cttttggtgg ctagcaattt cgcgtgtgct 60  
 gatgagggct caaatgatgg aagtgaagata tgctgggcgc aggggtggagt tgaaataaca 120  
 agtctggggg aagtctcaaa ggggtgtggat gttgaagatg ttgtagtttg ttcgattctt 180  
 ccaagtaata tgaagtcgag tcaaagagcg cctacactcc ctctctgca aaggatgata 240  
 atttcggcaa tgccttcacc aggaacggtc actgtttctg ccagcggaga taggaaattt 300  
 acaacatctt gccgggcaaa tctttatgct ccacgttatg ccaatttcta tccagacggg 360  
 gtttagcaggg gaacatcaga tctacgatgt gttggttaca atacaccggg gaattcatct 420  
 caagggtgta atgtgtcatg ggacggcccc accgacattc aattgggtgt tgagccatat 480  
 ggcggatctg ttgttgtaaa ctacagttgc actgcattca aaacaacgat tccagtata 540  
 atgagctaca gttatcgtga tgggcgggca gtgtatggcg aggtccagaa tgtgtcagga 600  
 ataataaatg tggttttgaa ctaa 624

<210> 101  
 <211> 318  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 101  
 atgcttatta aaattcttcg aattatattc ttgttgccca tagttggttt ggcacagcag 60  
 gctgctgcct ccccgccgcg agagtcacac tcggaacaat ctgaatcttc gtgtatcgat 120  
 gtccaagtca atggagcacg tagcctgtct tataactgca tggctcagca aatgactcca 180  
 cccaaagagg atcctcggcg tcggaaccct accttgaact ccacattagc gtctgaacgc 240  
 gccactcgcc tgccaccac acagacagga ctttttaccg gccttcatca acgtgccata 300  
 tcgaactcga aagactag 318

<210> 102  
 <211> 204  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 102  
 gtgagtagta ctaagagtaa gccgatagcc agggggcggtg gtggccatt tggggaagtg 60  
 atgaagaggt gcgggcttgt accggttcga ggaaggaata gacagcagac aggatcgctt 120  
 gcgatggggc agcaggaaac catcagcccg tccgtatcca gaactgctgc ttgcagcgtt 180  
 aggggtgact ccctcatgcc ctag 204

<210> 103  
 <211> 219  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 103  
 atggaacgct tgctcgagag catttacatc aatgcccggc cggcgatgga gttgaggctt 60  
 agcctcacca gctccggcgc caagagaatg gtaagattg tggatgggga ggaggtcgag 120  
 gttctgccag gtgaagtga gggcatcctg gagggccaaa agagggatgt tggaaatctc 180  
 gccgacttct tagccaagag tctcgtggcg cgacgctag 219

<210> 104  
 <211> 450  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 104  
 atggaatgcc acgttcgtcc cgccacgagc agagatgcag cagcgataag ctgcgtagtt 60

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| atagccgccc | tgcgtagtc  | aaattcacag | gactatccgc | ctgatgtgat | cgctcaggtt | 120 |
| gagcagagct | tttctcctga | agccatcacc | acacagctta | cgaagcgtag | ggtcttcgta | 180 |
| gccttattgg | gcgaaaacat | tattggcact | gccggtctcg | acggtgacgt | cgtcagaagt | 240 |
| gttttcggtt | accagctca  | ccagaaaggc | ggtatcgggc | ggcatttgat | ggatgtcatt | 300 |
| catacaactg | ctgccagcgc | gggagttgga | gctgtacgtg | tgccatcgtc | gattacagct | 360 |
| gaaaggTTTT | ataccgcatt | gggttatcag | aaaatccgcg | acgagtttca | tggggcgagg | 420 |
| cgcaccatcg | ttatggagaa | gcggctgtag |            |            |            | 450 |

<210> 105

<211> 1101

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 105

|            |            |            |             |             |             |      |
|------------|------------|------------|-------------|-------------|-------------|------|
| ttgtggttga | cctgcacgcc | acagcaggat | gtgcaggcgg  | cgttagctac  | agcgctcgata | 60   |
| ctcctggggc | agttccacca | gttgggcgtg | cagctcggtc  | ggtacactag  | cctcgaccgc  | 120  |
| cttgaggaa  | tcgagaagaa | cgcttctgca | ctgccgtctc  | ctgcttgga   | aacggattct  | 180  |
| actaagttca | gcgtggtact | gaaatcgggg | ggcagggtcaa | tcgacaaagg  | tatcccgacc  | 240  |
| gcaggtttgt | tgccccacgt | gatggtggcc | aagtttgccg  | atcacttgcc  | gctgtaccgg  | 300  |
| caggagaaaa | tctttggccg | cgccgggctg | gcaattgctc  | gctcgaccct  | ggcgagtggt  | 360  |
| gtcggacaaa | ccggcgtgcg | gcttcagcca | ctggctgatg  | caactgcgtga | agccgtgctg  | 420  |
| aaccagggcg | tgatccacgc | tgatgaaaca | ccggtgcaaa  | tgcttgccgc  | aggcgagaag  | 480  |
| aaaacccacc | gggcctatgt | ctgggcgtac | agcacgacgc  | cgttttcagg  | gctcaaagcg  | 540  |
| gtggtttacg | acttcagccc | aagccgtgct | ggcgaacatg  | cgcgcaactt  | cctgggtgac  | 600  |
| tggaacggca | agctggtctg | cgacgacttc | gctggctaca  | aagccggttt  | cgaacaaggc  | 660  |
| atcactgaaa | tcggctgcat | ggcccacgcc | cgccgcaagt  | tctttgattt  | gcacgtggcg  | 720  |
| aacaaaagtc | agctggctga | acaggccctg | caactgatca  | gcggcttgta  | cgaggtcgaa  | 780  |
| cgtcaggcgc | gggacatgag | tgatgaagag | cgctggcgaa  | tacgacaaga  | attggcggtg  | 840  |
| ccgatcctca | aaaaactgca | tgactggatg | ttggctcagc  | gagacctggt  | gccaatgga   | 900  |
| tcagccacgg | ccaaagccct | cgattacagc | ctgaaacgct  | gggtagcgct  | gacgcgctac  | 960  |
| ctggacgatg | gggctgtgcc | catcgataac | aatcaggctg  | agaaccaa    | acggccatgg  | 1020 |
| gcgctcgggc | gttcgaactg | gctgtttgcc | gggtcgctgc  | gcagtggtaa  | acgggcggct  | 1080 |
| gcaatcatga | gcctgatcta | g          |             |             |             | 1101 |

<210> 106

<211> 570

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 106

|             |            |            |             |            |            |     |
|-------------|------------|------------|-------------|------------|------------|-----|
| atggtgaggg  | ggcggagggg | cgcggtggcg | cgcgaaatgcc | tgagcctgtc | gagcgcaccg | 60  |
| aaccaggtct  | tgctgatgga | tttcgtcttc | gacgcgctca  | gcaactggcg | acggatcaaa | 120 |
| tgcttgacgg  | tggtcgatga | cttcaccaag | gtgtcggtcg  | acatcttggt | ggagtacggt | 180 |
| atcagcggtt  | ttcgtgtcac | gcgggcgctg | gacgagatgg  | cgcggtttcg | tggtaccgcg | 240 |
| caggcgatcc  | gcaccgacca | gggccccgag | ttcaccggca  | aggcgcttga | tcagtgggcc | 300 |
| tgctcagcgtg | acatcaagtt | gaagctgatt | cagcctggcc  | agcccacgca | gagcgccttc | 360 |
| atcgagtcac  | tcaacggcaa | gttcgggggc | gaatgcctca  | atgagcactg | ctcgctggtc | 420 |
| gaagccagaa  | tcggtatcgc | ggcttgggcg | gattacaacg  | agcaccgacc | acacagcgcc | 480 |
| attggcaatc  | tctccccggc | agagcttgct | gcgaagtggc  | gaaccaacca | gcagcagctg | 540 |
| aagcgggaaa  | agttgatata | aaccccatag |             |            |            | 570 |

<210> 107

<211> 2066

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 107

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| atgcatatcc | aatcggttggg | ggctactgcc | tcctcgctga | atcaggagcc | tgctgaaacc | 60  |
| ccgtcgaggg | cagcgcataa  | gtccgccagc | ttgcgtcagg | aaccttcagg | gcaaggtctc | 120 |

|             |            |            |            |            |            |      |
|-------------|------------|------------|------------|------------|------------|------|
| ggggttgccc  | taaagagcac | gccgggaata | ctttccggga | agttgccgga | aagcgttagc | 180  |
| gacgtgcgtt  | tcagcagtc  | ccaagggcaa | ggggagtc   | gtactctgac | tgactcggca | 240  |
| gggcccgggc  | agatcactct | gcgccagttt | gagaacggag | tcaccgagct | acagctcagt | 300  |
| cggccaccat  | tgaccagtct | ggtcctaagc | ggcggtggtg | ccaaagggtg | ggcatacccc | 360  |
| ggagcaatgc  | tggcgctaga | agagaaaagg | atgctcgatg | gcatccgcag | catgtccggt | 420  |
| tcgtccgctg  | gcggcatcac | cgcgcacctt | ttggcctcag | gtatgagccc | ggcggcggtc | 480  |
| aagacccttt  | ccgacaagat | ggatcttatt | tcgtgctcgc | acagctcgaa | caagaagctg | 540  |
| aagctgtttc  | aacacattag | cagcgagatc | ggcgcacgc  | tgaaaaagg  | cttgggcaac | 600  |
| aagatcggcg  | gcttctctga | ggtgctgctc | aatgtactcc | cacgcataga | ttcgcgggct | 660  |
| gagcccctag  | aacgcctatt | gcgcgacgag | acacgcaagg | ccgtgctcgg | acagatcgct | 720  |
| acgcatccag  | aggttgacg  | ccagccgacc | ggtgccgcca | tcgccagcag | attgcagtc  | 780  |
| ggctccggag  | tcacctttgg | cgatctagat | cggttgagtg | cttacattcc | ccagattaag | 840  |
| acgctgaaca  | tcacaggtac | ggccatgttc | gagggcgctc | cgcaattagt | ggtgttcaat | 900  |
| gccagccaca  | caccgatct  | ggaggtcgcc | caggcggcac | atatctccgg | ttccttccca | 960  |
| ggagtgttcc  | agaaggtcag | cttgagtgat | cagccgtacc | aggccggcgt | agagtggaca | 1020 |
| gaattccagg  | atggcggggt | gatgattaac | gtgccggctc | ctgagatgat | cgacaagaat | 1080 |
| tttgacagcg  | ggccactgcg | gcgcaacgac | aacctgatcc | ttgagttcga | gggcgaagct | 1140 |
| ggggaggtag  | cgcccagacc | aggtactagg | ggcggcgcg  | tcaagggtg  | ggtcgtcggg | 1200 |
| gtgcctgccc  | tgcaggcgcg | cgaaatgctg | cagctcgagg | gcctggagga | attgcgcgag | 1260 |
| caaaccgttg  | tggtgccgtt | gaagagcgag | cgcggtgatt | tcagtggcat | gctcgggtgg | 1320 |
| accttgaact  | tcacatgccc | ggacgagatc | aaggcgcac  | ttcaggagcg | cctccaggag | 1380 |
| cgagtccgtg  | aacatctgga | gaaacgtctt | caggcttcag | agcgtcatac | cttcgcttct | 1440 |
| ctcgacgagg  | cgctgctggc | acttgatgac | agtatgctca | ccagtgttgc | tcaacagaac | 1500 |
| ccggagatca  | cagacggggc | ggtggctttt | cgccagaagg | cgccggatgc | gttcaccgag | 1560 |
| ctgactgtcg  | ctatcgttag | cgccaatggc | ttggcgggta | ggctcaagtt | ggacgaggct | 1620 |
| atgcgctccg  | ctcttcagcg | actcgatgcg | ctggcagata | ctccggaacg | cctagcatgg | 1680 |
| ttggcagctg  | agttgaacca | tgctgataac | ggtgatcatc | agcagttact | cgatgccatg | 1740 |
| cgccgggcaga | cggtgcagtc | gccggtgctc | gccgctgcgt | tagcagaggc | gcagcgccgc | 1800 |
| aaagtggcgg  | ttattgccga | gaacattcgt | aaggaaagta | tcttcccctc | tctgtatcgc | 1860 |
| cctggccagc  | cggattccaa | cgtagctctg | ttacgtcggg | cggaggagca | gctacggcat | 1920 |
| gccaccagtc  | cggcggaat  | caatcaagcg | ctgaacgata | tcgtcgacaa | ctactcggca | 1980 |
| cgaggcttcc  | tgcgtttcgg | caaacccttg | agttcgacta | ccgttgagat | ggctaaggct | 2040 |
| tggcggaata  | aggagttcac | atgatt     |            |            |            | 2066 |

<210> 108

<211> 414

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 108

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| atgattgata | catggctggc | acagtggggc | ttgagacttc | cctcgagcaa | cgatgccacg | 60  |
| ttgcggctgc | aaccggcaga | gggaccggaa | ctggttatgg | agcgcctcga | gggcggttgg | 120 |
| cttttcgtcg | tcgagttggg | acttgtgcct | tcagggttac | cgctgggtgt | gatcttgcaa | 180 |
| ttgttacaag | tgaactctcc | attctcatcc | ttggcaccgg | tgaaacttgc | ggcggacgat | 240 |
| gccggtagac | ttgtgctctg | ggctgaggca | cgtgatggcg | ttgacgatgt | ggatgactg  | 300 |
| aaccgcttgc | acgataggct | gcgggaagga | cattcacgat | tagtgccatt | gctagagccc | 360 |
| acgggtgagt | tggttccagc | tcagatacaa | accagcgcgt | tagtgttcgt | ttga       | 414 |

<210> 109

<211> 514

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 109

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| aattcgcggc | cgcgtgtcga | cgaccaaacc | tgtgataacc | tgtctcaaaa | ccctcctcat | 60  |
| catctactcc | ttcgtcttct | ggatcactgg | ggtgatcctg | ctggctgttg | gagctctggg | 120 |
| caaacttact | ctgggcacct | atatctccct | tattgccgag | aactccacaa | atgctcccta | 180 |
| tgtgctcatc | ggaactggca | ccactattgt | tgtctttggc | ctggttggtg | gctttgctac | 240 |
| atgtcgtggt | agcccatgga | tgctgaaact | gtagccatg  | tttctgtccc | tggtgttcct | 300 |

```

ggctgagctc gtagctggca tttcaggggt tgtgtttcgt catgagatca aggacacctt 360
cctgaggact tacacggacg ctatgcagac ttacaatggc aatggcaatg atgagaggag 420
ccgggcagtg gaccatgtgc agcgcagcct gagctgctgt ggtgtgcaga actacaccaa 480
ctggagcacc agcccctact tcctggagca tggc 514

```

```

<210> 110
<211> 519
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<220>
<221> misc_feature
<222> 239, 383
<223> n=a, c, t, or g

```

```

<221> misc_feature
<222> 239, 383
<223> n = A,T,C or G

```

```

<400> 110
aattcgcggc cgcgtcgacc aagtgcaaca cctccactg tgccttttgg accagcacca 60
acaggaatgt atccctccgt gcctcccacc ggaccacctc caggaccccc agcacccttt 120
cctccttccg gaccatcatg tccccacact ggtggtcctt atccagcccc aactgtgccg 180
ggccctggcc ccacagggcc atatcctaca ccaaatatgc ctttccaga gctaccana 240
ccatatggtg caccacaga tccagctgca gctggtcctt taggtccatg gggatccatg 300
tcttctggac cttgggcgcc aggaatggga gggcagtatc ctaccctaa tatgccatat 360
ccatctccag gcccatatcc cgntcctcct cctccccaag cccctggggc agcaccacct 420
gttccatggg gcaccgttcc accaggagcc tggggaccac cagcaccata tctgcccct 480
acaggatcgt atccacacc aggactctat cctactccc 519

```

```

<210> 111
<211> 514
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<220>
<221> misc_feature
<222> 506
<223> n = A,T,C or G

```

```

<400> 111
aattcgcggc cgcgtcgact gcggaggagc ctctgtcac aacaccctgg ggagctacaa 60
gtgcatgtgt cccgccggct tccagtatga acagttcagt ggaggatgcc aagacatcaa 120
tgaatgtggc tctgcgagc cccctgcag ctatggctgt tccaataccg agggcggtta 180
cctgtgtggc tgtccacctg gttacttccg cataggccaa gggcactgtg tttctggaat 240
gggcatgggc cgaggaaacc cagagccacc tgtcagtggg gaaatggatg acaattcact 300
ctccccagag gcttgttacg agtgtaagat caatggctac cccaaacggg gcaggaaacg 360
gagaagcaca aacgaaactg atgcctccaa tatcgaggat cagtctgaga cagaagccaa 420
tgtgagtctt gcaagttggg atgttgagaa gacagccatc ttgtctttca atatttcca 480
cgtcagtaac aaggttcgaa tctanaact cctt 514

```

```

<210> 112
<211> 400
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<400> 112
aattcgcggc cgcgtcgacg gggatgttta caacccagc accggggtct tcacggctcc 60
ttatgatggg cgctacctga tcacggccac cctaccccc gagagagacg cctacgtgga 120

```

|             |            |            |            |            |            |     |
|-------------|------------|------------|------------|------------|------------|-----|
| agcagtgtctg | tcggtctcca | acgccagcag | tggcccagct | gcataccgct | gggtacagga | 180 |
| gagagttcct  | ggaataccac | cgccctccag | gagctttgca | tacctgcggg | ggcccggggg | 240 |
| cattccacct  | catcgtgcac | ctgaaggcgg | gagatgcagt | ccacgtcgtg | gtgactgggg | 300 |
| gcaagctggc  | tcacacagac | tttgatgaaa | tgtactccac | athtagtggg | gttttcttat | 360 |
| atcctttcct  | ttcccacctc | taaggtggct | ggggagatgt |            |            | 400 |

<210> 113

<211> 433

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 113

|            |             |             |            |            |            |     |
|------------|-------------|-------------|------------|------------|------------|-----|
| aattcgcggc | cgcgctcgaca | aagaaaaaaaa | gaaagttttc | actctgggct | gtggaactat | 60  |
| ttcaggactt | cctgaggggt  | ttcctctgga  | gcttcctgag | tttctctctg | gacattttgt | 120 |
| ctccagggtc | cagcgccagg  | caggggtggc  | tcccgggaag | gctgtgggtg | ccaccctggc | 180 |
| tgactgcagc | cctctcttgc  | acctctctcc  | ggccatccac | ccgcaggagg | tcttccccc  | 240 |
| gcactggctt | gtgaggagct  | ccctctgccc  | gggagaaaat | ggctcctccg | ggtcacaggc | 300 |
| tcccctccag | ggactgaggg  | gcatttttgg  | attgtgggga | aggcgctcca | gggcccgggt | 360 |
| ctgtggcccc | aggcctgttg  | ctcggctggg  | tggaggcacc | tctgcaggcc | gggagcttgg | 420 |
| tctttgaaca | cct         |             |            |            |            | 433 |

<210> 114

<211> 400

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 114

|             |             |            |            |             |            |     |
|-------------|-------------|------------|------------|-------------|------------|-----|
| aattcgcggc  | cgcgctcgacg | gggatgttta | caaccccagc | accgggggtct | tcacggctcc | 60  |
| ttatgatggg  | cgctacctga  | tcacggccac | cctcaccccc | gagagagacg  | cctacgtgga | 120 |
| agcagtgtctg | tcggtctcca  | acgccagcag | tggcccagct | gcataccgct  | gggtacagga | 180 |
| gagagttcct  | ggaataccac  | cgccctccag | gagctttgca | tacctgcggg  | ggcccggggg | 240 |
| cattccacct  | catcgtgcac  | ctgaaggcgg | gagatgcagt | caacgtcgtg  | gtgactgggg | 300 |
| gcaagctggc  | tcacacagac  | tttgatgaaa | tgtactccac | athtagtggg  | gttttcttat | 360 |
| atcctttcct  | ttcccacctc  | taaggtggct | ggggagatgt |             |            | 400 |

<210> 115

<211> 506

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 115

|            |             |             |            |            |            |     |
|------------|-------------|-------------|------------|------------|------------|-----|
| aattcgcggc | cgcgctcgacc | gcaactgtca  | agacattgat | gagtgtgtga | ctggcatcca | 60  |
| caactgtctc | atcaacgaga  | cctgcttcaa  | catccagggc | ggcttccgct | gcctggcctt | 120 |
| cgagtgcctt | gagaactacc  | gccgctccgc  | agccacgctc | cagcaggaga | agacagacac | 180 |
| ggtccgctgc | atcaagtctt  | gccgcccaca  | cgatgtcaca | tgcgtgttcg | accccggtga | 240 |
| caccatctcc | cacaccgtca  | tctcgtgcc   | taccttccgc | gagttcaccc | gccctgaaga | 300 |
| gatcatcttc | ctccggggcca | tcacggccacc | gcatectgcc | agccaggcta | acatcatctt | 360 |
| cgacatcacg | gaaggggaacc | tgcgggactc  | ttttgacatc | atcaagcggt | acatggacgg | 420 |
| catgaccgtg | ggtgtcgtgc  | gccaggtgcg  | gcccacgtg  | ggcccatttc | atgccgtcct | 480 |
| gaagctggag | atgaactatg  | tggtcg      |            |            |            | 506 |

<210> 116

<211> 435

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 116

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| aattcgcggc | cgcgctcgaca | cactgcagag | taatgctcca | tcaagtatga | tggtgaagga | 60  |
| tgaatatgtg | catgactttg  | agggacagcc | atcgttgtcc | actgaaggac | attcaattca | 120 |



```

aaccatccag catccaccaa gtaatcgtgc atcgacagag acatacagca cccagctct 180
gttagcccca tctgagtcta atgctaccag cactgccaac tttcccaaca ttcctgtggc 240
ttccacaagt cagcctgccg gtatactggg gggcagccat agtgaaggac tgttgagat 300
agcatcaggg cctcagccag gacagcagca gaatggattt actggtcagc cagctactta 360
ccatcataac agcactacca cctggactgg aagtaggact gcaccataca cacctaattt 420
gcctcaccac caaaa 435

```

```

<210> 117
<211> 427
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<220>
<221> misc_feature
<222> 371, 404
<223> n = A, T, C, or G.

```

```

<400> 117
aattcgcggc cgcgtcgacc ggcgcccgag gagcggcgga ctccggggcgc ggggagtcga 60
ggcatttgcg cctgggcttc ggagcgtagc gccagggcct gagcctttga agcaggagga 120
ggggaggaga gagtggggct cctctatcgg gacccctcc ccatgtggat ctgcccaggc 180
ggcgggcgcg gaggaggcga ccgagaagat gcccgcctcg cgcggcgctc tgctgtgggc 240
gctgctggcg ctctggctgt gctgcgcgac cccgcgcgat gcattgcagt gtcgagatgg 300
ctatgaacct tgtgtaaagt aaggaatgtg tgttacctac cacaatggca caggatactg 360
caaatgtcca naaggcttct tgggggaata ttgtcaacat cganaccct gtgagaagaa 420
ccgctgc 427

```

```

<210> 118
<211> 427
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<220>
<221> misc_feature
<222> 371, 404
<223> n = A,T,C or G

```

```

<400> 118
ttaagcgccg ggcagctgg cgcggcgctc ctgcgcgcct gagggccgcg cccctcagct 60
ccgtaaaccg ggacccgaag cctcgcatcg cgggtcccga ctcggaact tcgtcctcct 120
ccctcctct ctcacccgga ggagatagcc ctgggggagg ggtacaccta gacgggtccg 180
ccgcgcgcgc ctctccgct ggctcttcta cgggcgggac gcggggcgag acgacaccg 240
cgacgaccgc gagaccgaca cgacgcgctg ggggcgcgta cgtaacgtca cagctctacc 300
gatacttggg acacatttac ttccttacac acaatggatg gtgttaccgt gtcctatgac 360
gtttacaggt nttccgaaga acccccttat aacagttgta gctntgggga cactcttctt 420
ggcgacg 427

```

```

<210> 119
<211> 2780
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<400> 119
atgattaaca gtcatttgct ctaccactga gctatcgcg aacgtctttc ttccaaccct 60
ggacgcttcc ggtgttgctg gattcgcgtc tcagaggcgc gccattttac ggatgcgcgc 120
gggcatgtca accctctgat ccaaaaagtt tttcttctt ttccacgagc gacaaaacgg 180
cccttcact gcatgcggca gcgctctcgc gcctaccgga cgcccatgaa aaagccccgc 240
cgaagcgggg ctttccctgt ccgccccga agaggtcagg cgaagacgat ctcgctcgct 300
tccaccttcg ccgagatacg ggcgtgcgcc atagaccggg tcgaagccga cggcaatcag 360

```

```

cttgtccagc gcctcctggc tcagttccaa ggctcagctc gcgctcggcc aggcgcttgc 420
gcaggcgacc gagctggatc tggcgatgc cggcgatctg ctgcgagacc agcggtctga 480
acaccaccac ttcgtcgatc cggttgatga attccggacg gaagtgcgca ttgaccgcgt 540
ccatcactgc ggcacgttgc gcctcgcggt cgccggccag ctccctggatc tgcgccgaac 600
cgaggttga ggtcatcacc accacggtgt tgcggaagtc caccgtacgc ccgtgactgt 660
cggtcaggcg tccgtcctcg agcacctgga ggagaatgtt gaatacatcc ggatgggcct 720
tctccacctc gtccagcagc accaccgagt agggcttgcg gcgcatcgcc tcggtcaggt 780
agccgccttc ctogaagccg acgtagcccg gaggcgccg gatcaggcgg gccaccgagt 840
gtttctccat gaactcggac atatctatcc gcaccagcgc ctccctcggtc tcgaagagga 900
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acgagccgct cggccggttc ggatcggcga ggccggcgcg cgaacggcgc acggcggttg 1020
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gcagcagctt ctgcgcctcg ccctcgagca tcttcgacac cgggataacc gtccacttgg 1140
aaaccacttc ggcgatttcc tcgtcgggtc cctgttgcgc agcaactggt tctcgggtctt 1200
gccgtgctgg tcgaccatct gcaggctgcg ttccaggctc gggatggtct ggtactggat 1260
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gatcaggcga cggtcgagac gatccagttc ctccggcttg gattcgatct ccatgcggat 1560
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agggactggg cgtcggagag cgccagttgc agcttgcctg tcaaacggtc tattcgcatg 2760
ggtcgtcctt ccttctatag

```

```

<210> 120
<211> 2565
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<220>
<221> misc_feature
<222> 371, 404
<223> n = A,T,C or G

```

```

<400> 120
atgcgaatag accgtttgac cagcaagctg caactggcgc tctccgacgc ccagtcctctg 60
gccgttggcc atgaccatcc ggccatcgag ccggtgcacc tgctttccgc cctgctcgag 120
cagcaaggcg gttcgatcaa gcccctgctg atgcaggctg gcttcgatat cgccgccctg 180
cgcagcggcc tcaacaaaga actcgacgcg ctgccgaaga tccagagccc gaccggcgac 240
gtgaacctgt cccaggtatc cgcagcctg ctcaaccagg ctgaccgcct ggccagcag 300
aagggcgacc agttcatctc cagcgagctg gtattgctgg ccgcgatgga cgagaacacc 360

```

```

aggctcggca agctgctgct cggccagggc gtgtcgcgca aggcgctgga gaatgccgtg 420
gccaacctgc gtggcggcga agcgggtgaac gacccgaacg tcgaggagtc gcgccaggcg 480
ctggacaagt acaccgtcga catgaccaag cgcgcgaggg aaggcaagct cgacccgggtg 540
atcggctcgcg acgacgagat ccgcccggacc atccagggtcc tgcagcggcg gaccaagaac 600
aaccocgggtgc tgatcggcga acccggcgctc ggcaagaccg ccatcgtcga gggcctggcc 660
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gacatggggg cgctgatcgc cggtgccaag ttccgcggcg agttcgagga acgcctgaag 780
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cacaccatgg tcggcgccgg caaggcgaa ggtgccatgg acgccggcaa catgctcaag 900
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cagtacatcg agaaggatgc cgcgctggag cgcgccttcc agaagggtgct ggtggacgaa 1020
ccgagcgagg aagacacat cgccatcctc cgtggcctca aggaacgcta tgaagtgcac 1080
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atccgcatgg agatcgactc caagccggag gaactggatc gtctcgaccg tcgcctgatc 1260
cagctgaaga tcgagcgcga ggcgctgaag aaggaagacg acgaagccac caggaagcgc 1320
ctggccaagc tggaggagga tatcgtcaag ctcgagcgcg aatacgcga cctcgaggag 1380
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aagaccgaga accagttgct gcgcaacaag gtgaccgacg aggaaatcgc cgaagtgggt 1620
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cactcggtgg cccgcctgat ccggcgccct ccgggctacg tcggcttcga ggaaggcgcc 1980
tacctgaccg aggcgatccg ccgcaagccc tactcggtgg tgctgctgga cgagggtggag 2040
aaggcccatc cggatgtatt caacattctc ctccagggtgc tcgaggacgg acgcctgacc 2100
gacagtcacg ggcgtacggt ggacttccgc aacaccgtgg tggatgatgac ctccaacctc 2160
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cgctggatcg agaaccgcgt ggcgcaactg atcctggccg gcaaattcgc gccgggtgcc 2520
agtatctcgg cgaagggtgga aggcgacgag atcgtcttcg cctga 2565

```

<210> 121  
 <211> 399  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

```

<400> 121
acgtcggggg cgcattgcta cgcctgcaga atggtttcag ggccttagaa acagaaaagc 60
ccacctagac aggcgggcta ttccatattg acatcacgtc aatgcgggcc taatgttcgg 120
cccagacggc tgctagacaa gaaccggcgt aacaccctt cctagcctat gcaactcgcc 180
ccgtagaaaa tgggtgggtcg tgtaggattc gaacctacga ccaattggtt aaaagccaac 240
tgctctaccg actgagctaa cgacccaagt atgagggtgt cggggtagag agattcgaac 300
tcccgcacat ctgctcccaa agcaggcgcg ctaccggact gcgctatacc ccgattggaa 360
tttggtcccg cgacctggac tcgaaccagg gacccaatg 399

```

<210> 122  
 <211> 811  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<220>  
 <221> misc\_feature

<222> 709  
<223> n = A, T, C or G

<221> misc feature  
<222> 9, 330, 331, 332, 620, 698, 715, 751, 759, 769, 780, 791,  
806, 807  
<223> n = A,T,C or G

<400> 122  
gatgaaggna cccgagcgga acatccatct cacgaagtgc ctgctcaacc actcgaatat 60  
ccagaccacc atgagctaca tcgaggccga ctacgaccac atgcgtgccg tgctgcatgc 120  
cagaagcctg gcccaaggag cgctggagaa cgtcaggaag gtggattaca gcggctcccc 180  
gcaagcctct gccaaaccga agccatgcgg gcaacctctc gctcgaatgg gtgaagtacc 240  
gccgccggag gccaggacag aacctgcaga accaaggag cacataccag ggacaggcat 300  
tcagggaggt ccaaccgtgc gggaagaagn nncgctacca cagccacctg acaccttcga 360  
ccaaagcgtg ctgttcactc tgatggctca acacttatcg aaccgtgccg cctcggcac 420  
cgcggtcccc gctgcaacaa gcggatctgg tggatgggga tctactgcc gaagcagtct 480  
cgcctagcga taccgatact gaagggccgg ctaccggacg aaaggtagcc gcgcctccca 540  
gcagttcgct aggcctgtaa gaaaaatctg gaattaccga gagcgccctgg attccagcgc 600  
cggcattgctg gcagagcccn cgcagtttca cggccaaaac cgcagtaccc tctgtaatcg 660  
ctgattacgt cggggggcgca ttgctacgcc tgcagaantg gtttcagggc cttanaaaca 720  
gaaaagccca ccttaaatag gcgggctatt nccatattn g acatcacgnt caatgcgggn 780  
cctaattgtt nggccagac ggctgnnctg g 811

<210> 123  
<211> 812  
<212> DNA  
<213> Pseudomonas aeruginosa

<220>  
<221> misc\_feature  
<222> 788  
<223> n=a, t, c, or g

<221> misc feature  
<222> 9, 330, 331, 332, 620, 751, 759, 769, 780, 781, 794, 799,  
807, 808  
<223> n = A,T,C or G

<400> 123  
gatgaaggna cccgagcgga acatccatct cacgaagtgc ctgctcaacc actcgaatat 60  
ccagaccacc atgagctaca tcgaggccga ctacgaccac atgcgtgccg tgctgcatgc 120  
cagaagcctg gcccaaggag cgctggagaa cgtcaggaag gtggattaca gcggctcccc 180  
gcaagcctct gccaaaccga agccatgcgg gcaacctctc gctcgaatgg gtgaagtacc 240  
gccgccggag gccaggacag aacctgcaga accaaggag cacataccag ggacaggcat 300  
tcagggaggt ccaaccgtgc gggaagaagn nncgctacca cagccacctg acaccttcga 360  
ccaaagcgtg ctgttcactc tgatggctca acacttatcg aaccgtgccg cctcggcac 420  
cgcggtcccc gctgcaacaa gcggatctgg tggatgggga tctactgcc gaagcagtct 480  
cgcctagcga taccgatact gaagggccgg ctaccggacg aaaggtagcc gcgcctccca 540  
gcagttcgct aggcctgtaa gaaaaatctg gaattaccga gagcgccctgg attccagcgc 600  
cggcattgctg gcagagcccn cgcagtttca cggccaaaac cgcagtaccc tctgtaatcg 660  
ctgattacgt cggggggcgca ttgctacgcc tgcagaaatg gtttcagggc cttagaaaca 720  
gaaaagccca ccttaaatag gcgggctatt nccatattn g acatcacgnt caatgcgggn 780  
ncctaattgtt cggncccana cggctgnnct gg 812

<210> 124  
<211> 809  
<212> DNA  
<213> Pseudomonas aeruginosa

<220>  
 <221> misc\_feature  
 <222> 9, 330, 331, 332, 620, 698, 715, 751, 759, 769, 780, 791, 806, 807  
 <223> n = A,T,C or G  
  
 <400> 124  
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 ccagaccacc atgagctaca tcgaggccga ctacgaccac atgcgtgccg tgctgcatgc 120  
 cagaagcctg gcccaaggag cgctggagaa cgtcaggaag gtggattaca gcggctcccc 180  
 gcaggcctct gccaaaccga agccatgcgg gcaacctctc gctcgaatgg gtgaagtacc 240  
 gccgcccggag gccaggacag aacctgcaga accaaggag cacacaccag ggacaggcat 300  
 tcagggaggt ccaaccgtgc gggaagaagn ncgctaccac agccacctga caccttcgat 360  
 caaagcgtgc tgttcaactct gatggetcaa cacttatcga accgtgccgc ctcgcatcc 420  
 gcagctcccc ctgcaacaag cggatctggt ggatggggat ctaccgcccg aagcagtctc 480  
 gcctagcgat accggtactg aaggggccgc taccggacga aaggtagccg cgcctcccag 540  
 cagttcgcta ggccgttagg aaaaatctgg aattaccgag agcgcctgga ttccagcgcc 600  
 ggcatgctgg cagggccnc gcaatttcaa ggcnгааacc gcagtaccct ctgtaatcgc 660  
 tgattacgtc gagggcacat tgctacgcct gcagaanggt ttcagagcct ngaaaacaga 720  
 aaagnccacc naaataggcg ggctatttcc atatttgaca tcccgtaat gcggggccct 780  
 aatggttcgg gcccanacgg cttgcttgg 809

<210> 125  
 <211> 828  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<220>  
 <221> misc\_feature  
 <222> 788  
 <223> n = A,T,C or G  
  
 <400> 125  
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 gaagtgcctg ctcaaccact cgaatatcca gaccacgatg agctacatcg aggccgacta 120  
 cgatcacatg cgtgccgtgc tgcatgctag aagcctggcc caaggcgcg caggagaatgt 180  
 caggaaggtg gattacagcg gctccccgca agcctctgcc aaaccgaagc catgcgggca 240  
 acctctcgct cgagtgaagt aagcgccgcc accggaggcc aggacagagc ctgcagaacc 300  
 aaggggagcac acgccaggga caggcattca gggaggtcca accgcgtggg aagcagatgc 360  
 gctaccacag ccacctgaca ccttcgaacc aagcgtgctg ttcactctga tggctcaaaa 420  
 cttatcgaac cgtgccgcct cggcatccgc ggctcccgt gcaacaagcg gatcaggcgg 480  
 atggggatct gccgccgaa gcaatctcgc ctacgatac cggtagtag ggccggctac 540  
 cggacgaaag gtagccgtgc cttccagcag atcgttagge ctgtaggaaa aatctggaat 600  
 taccgagagc gcctggattc cagcgccggc atgctggcag agccagcgca atttcaaggc 660  
 caataccaca gtacctctg taatcgctga ttacgtcggg ggcgcattgc tacgcctgca 720  
 gaatggtttc agggccttag aaacagaaaa gccacctag aaaggcgggc tattccatat 780  
 tgacatcacg tcaatgcggg cctaattgtt gccccagacg gctgctag 828

<210> 126  
 <211> 800  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<220>  
 <221> misc\_feature  
 <222> 711, 790, 795  
 <223> n = A,T,C or G

<400> 126

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agaagcctgg cccaaggcgc gctggagaat gtcaggaagg tggattacag cggctccccg 180
caagcctctg ccaaaccgaa accatgcggg caacctctcg ctcgagttag tgaagcgccg 240
ccaccggaag ccaggacaga gcctgcagaa ccaagggagc acacaccagg gacaggcatt 300
cagggaggtc caaccgagt ggaagcagaa gcgctaccac agccacctga caccttcgag 360
caaagcgtgc tgttcactct gatggctcaa cacttatcga accgtgccgc cagcacatct 420
gcggctcccc cgcgaaccag cggatcttgt agatggggat ctgccgcccg aagcagcctc 480
gcctagcgat accggtactg aggggcccgc taccagacga aaggtagccg cgcctcccag 540
cagatcgctg ggctgttagg aaaaatctgg aattaccgag agcgcctgga ttccagcgcc 600
ggcatgctgg cagagccccg caatttcacg gcaaaaccgc agtaccctct gtaatcgctg 660
attacgtcgg gggcacattg ctacgcctgc agaatggttt cagagcctta naaacagaaa 720
agcccaccta gataggcggg ctattccata ttgacatcac ggtcaatgcg gggctaattg 780
tcgggccccn acggnatgcaa 800

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<210> 127

<211> 501

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 127

```

Val Ala Leu Thr Gly Asn Pro Leu Leu Lys Leu Leu Val Val Pro Val
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20     25     30
Ser Ala Gln Ser Gln Gly Ala Ala Thr Pro Thr Val Thr Ser Glu Glu
35     40     45
Ala Ala Thr Leu Gly Ile Asp Gly Asp Thr Pro Ala Asp Thr Leu Arg
50     55     60
Thr Ile Val Ala Glu Ser Arg Gln Leu Lys Asp Gln Ile Ser Lys Val
65     70     75     80
Ile Gln Glu Asn Asp Ser Leu Lys Ala Ala Asn Glu Asn Leu Gln Gly
85     90     95
Arg Leu Arg Asn Ile Asp Gln Asn Ile Glu Gln Lys Leu Asn Asn Thr
100    105    110
Ala Gln Glu Leu Gln Gln Gln Gln Glu Asn Arg Ser Gln Thr Ile Leu
115    120    125
Asp Gln Val Gln Lys Arg Leu Glu Asn Leu Thr His Ile Pro Glu Ala
130    135    140
Gly Asp Thr Asp Leu Pro Val Gly Phe Gly Val Arg Pro Lys Asp Gly
145    150    155    160
Gln His Phe Gln Gly Ala Gly Ser Ser Ser Ser Asp Ile Val Trp Ile
165    170    175
Glu Pro Gln Asp Ala Arg Ala Val Asp Ala Asn Gly Gln Pro Leu Ala
180    185    190
Ala Gly Ser Thr Thr Gln Pro Ser Gly Phe Ser Phe Pro Thr Ser Phe
195    200    205
Gly Asn Ala Val Asp Arg Gly Gln Asn Ala Leu Glu Arg Ile Asp Asp
210    215    220
Gly Leu His Pro Val Gly Gln Gln Arg Ser Asp Leu Glu Asn Arg Lys
225    230    235    240
Leu Val Arg Lys Thr Tyr Thr Leu Pro Gln Asn Ser Thr Leu Met Gly
245    250    255
Ser Val Ala Met Phe Ala Leu Ile Gly Arg Val Pro Val Asp Gly Thr
260    265    270
Val Asn Asp Pro Tyr Pro Phe Lys Ile Leu Ile Gly Pro Asp Asn Leu
275    280    285
Thr Ala Asn Gly Ile Glu Leu Pro Asp Val Ala Gly Ala Val Ala Ser
290    295    300

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Thr | Ala | Ser | Gly | Asp | Trp | Thr | Leu | Ser | Cys | Val | Arg | Gly | Gln | Ile |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Arg | Ser | Leu | Thr | Phe | Val | Phe | Asn | Asp | Gly | Thr | Val | Arg | Thr | Phe | Pro |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ala | Pro | Ala | Glu | Glu | Val | Asn | Asp | Asn | Gln | Ser | Asn | Asn | Asn | Gln | Thr |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ala | Ser | Ala | Asp | Gln | Lys | Thr | Ile | Gln | Gly | Gly | Leu | Gly | Trp | Ile | Ser |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Asp | Pro | Tyr | Gly | Ile | Pro | Cys | Ile | Ala | Gly | Asp | Arg | Arg | Ser | Asn | Ala |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Lys | Glu | Tyr | Leu | Gly | Asn | Gln | Ser | Leu | Leu | Thr | Ala | Ala | Gly | Ala | Gly |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Ile | Ala | Lys | Leu | Leu | Asp | Ala | Asp | Glu | Asn | Asn | Thr | Ser | Thr | Val | Phe |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Ser | Gly | Asn | Gly | Thr | Ser | Phe | Gly | Thr | Thr | Gly | Thr | Asn | Ser | Asn | Ser |
|     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |     |
| Ala | Leu | Asn | Ser | Ile | Leu | Ser | Gly | Gly | Val | Ser | Asp | Ile | Arg | Gln | Trp |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Met | Asn | Lys | Leu | Tyr | Gly | Glu | Ala | Phe | Ala | Ala | Val | Tyr | Val | Gln | Pro |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Gly | Ala | Arg | Val | Ala | Val | His | Leu | Asp | Gln | Gln | Leu | Ala | Ile | Asp | Tyr |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     |     | 480 |
| Glu | Leu | Lys | Gly | Arg | Lys | Val | Asp | Tyr | Ser | Ser | Gly | Ala | Ala | His | Ala |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |
| Thr | Ala | Asp | Leu | Asp |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 500 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 128  
 <211> 294  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<220>  
 <221> misc\_feature  
 <222> 711, 790, 795  
 <223> n = A,T,C or G

|   |
|---|
| <400> 128   |
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| 1 5 10 15   |
| Thr Leu Ala His Ala Val Glu Ile Leu Arg Trp Glu Arg Ile Pro Leu |
| 20 25 30  |
| Ala Ile Pro Leu Thr Val Gly Gln Glu Arg Ile Val Phe Val Asp Arg |
| 35 40 45  |
| Asn Val Arg Val Gly Val Pro Arg Asp Leu Gln Gly Lys Leu Arg Val |
| 50 55 60  |
| Gln Ser Thr Gly Gly Ala Leu Tyr Leu Leu Ala Asn Glu Pro Ile Pro |
| 65 70 75 80   |
| Pro Ala Arg Leu Arg Leu Gln Asp Ala Thr Asn Gly Glu Gln Met Leu |
| 85 90 95  |
| Ile Asp Ile Ala Ala Thr Glu Ala Thr Ala Asp Gln Gln Pro Arg Glu |
| 100 105 110   |
| Pro Val Arg Ile Val Ala Gly Glu Pro Val Asp Pro His Tyr Gly Gln |
| 115 120 125   |
| Ser Arg Glu Ala Gln Pro Ser Ala Ala Ala Lys Gln Thr Glu His Ala |
| 130 135 140   |
| Glu Ala Pro Lys Ala Val Pro Arg Glu Thr Pro Val Pro Val Val Leu |
| 145 150 155 160   |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Arg | Tyr | Ala | Ala | Gln | Met | Leu | Tyr | Ala | Pro | Leu | Arg | Thr | Val | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Pro | Val | Asp | Gly | Val | Gly | Gln | Val | Arg | Val | Lys | Arg | Gln | Leu | Asp | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Thr | Leu | Leu | Pro | Ser | Leu | Pro | Ile | Thr | Ala | Thr | Ala | Leu | Gly | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Trp | Arg | Leu | Asp | Asp | Tyr | Tyr | Ile | Thr | Ala | Val | Lys | Leu | Gln | Asn | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Ala | Gln | His | Leu | Ala | Leu | Asp | Pro | Arg | Asp | Leu | Met | Gly | Asn | Phe |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | Ala | Ala | Thr | Phe | Gln | His | Pro | Tyr | Leu | Gly | Pro | Arg | Gly | Asp | Ala |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Asp | Thr | Thr | Thr | Val | Tyr | Leu | Val | Thr | Arg | Gly | Arg | Gly | Leu | Ala |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Asp | Ala | Leu | Leu | Pro | Ser | Ser | Ile | Ser | Gln | Ile | Asp | Pro | Lys | Gly | Gly |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Arg | Arg | Gly | Ala | Asp | Arg |     |     |     |     |     |     |     |     |     |     |
|     |     | 290 |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 129  
 <211> 219  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> | 129 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Met   | Ser | Phe | Arg | Lys | His | Thr | Ala | Gln | Gln | Gln | Ala | His | Ile | Asn | Thr |
| 1     |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe   | Arg | Phe | Ile | Thr | Gly | Phe | Leu | Cys | Met | Val | Ile | Val | Val | Leu | Ala |
|       |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr   | Cys | Val | Trp | Glu | Ala | Arg | Lys | Asp | Leu | Trp | Ile | His | Ile | Pro | Pro |
|       | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp   | Leu | Arg | Ser | Gly | Ser | Thr | Arg | Leu | Trp | Trp | Asp | Ile | Pro | Pro | Glu |
|       | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser   | Val | Tyr | Ala | Phe | Gly | Leu | Tyr | Ile | Phe | Gln | Gln | Val | Gln | Arg | Trp |
| 65    |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro   | Lys | Asp | Gly | Glu | Val | Asp | Tyr | Lys | Gly | Asn | Leu | Phe | Arg | Tyr | Ala |
|       |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala   | Tyr | Leu | Thr | Pro | Ser | Cys | Lys | Val | Phe | Leu | Glu | Lys | Asp | Phe | Glu |
|       |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe   | Arg | Arg | Asn | Ala | Gly | Glu | Leu | Arg | Gly | Arg | Glu | Arg | Thr | Thr | Ser |
|       |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu   | Ile | Pro | Gly | Arg | Gly | Ile | Gly | Glu | Ser | Asn | Gly | Arg | Val | Ile | Gln |
|       | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| His   | Ser | Ile | Asn | Asp | Trp | Thr | Val | Asn | Leu | Asp | Met | Asp | Ser | Thr | Glu |
| 145   |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Tyr   | Tyr | Ala | Gly | Glu | Lys | Ile | Lys | Arg | Ala | Leu | Ala | Arg | Tyr | Pro | Leu |
|       |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| His   | Val | Ile | Arg | Ala | Asp | Val | Asp | Pro | Glu | Thr | Asn | Pro | Phe | Gly | Leu |
|       |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gln   | Trp | Asp | Cys | Tyr | Ser | Asp | Thr | Pro | Gln | Arg | Ile | Glu | Leu | Glu | Glu |
|       |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Pro   | Ala | Ala | Pro | Thr | Lys | Arg | Glu | Gly | Gly | Leu |     |     |     |     |     |
|       |     | 210 |     |     |     |     | 215 |     |     |     |     |     |     |     |     |

<210> 130  
 <211> 128  
 <212> PRT



<213> Pseudomonas aeruginosa

<400> 130

```
Met Pro Glu Glu His Leu Phe Gln Asp Gly Thr Leu Ser Phe Leu Pro
 1          5          10          15
Thr Arg Leu Asn Arg Gln Pro Val Val Ile Gly Gly Leu Thr Ala Asp
          20          25          30
Glu Met Trp Ile Thr Val Phe Thr Ser Gly Ala Ala Gly Phe Val Leu
          35          40          45
Gly Ile Pro Ala Ala Leu Val Ala Gly Asn Ala Ala Cys Ile Pro Leu
          50          55          60
Gly Ala Leu Leu Val Gly Ala Leu Gly Leu Gly Ile Gly Ser Arg Val
65          70          75          80
Leu Arg Arg Met Lys Arg Gly Arg Pro Asp Thr Trp Phe Tyr Arg Gln
          85          90          95
Val Glu Met Ala Leu Ser Leu Arg Phe Pro Val Phe Gly Asn Arg Arg
          100          105          110
Leu Val Thr Arg Ser Gly Ala Trp Thr Ser Arg Arg Thr Glu Ser Pro
          115          120          125
```

<210> 131

<211> 118

<212> PRT

<213> Pseudomonas aeruginosa

<400> 131

```
Met Leu Lys Leu Thr Leu Gln Lys Leu Ser Ala Leu Cys Gln Ser Leu
 1          5          10          15
Ala Ala Ile Thr Leu Ala Leu Pro Gly Ile Ala Leu Ala Ala Leu Pro
          20          25          30
Lys Pro Glu Ala Pro Ser Arg Gly Glu Gly Ser Gly Ile Met Gln Thr
          35          40          45
Ile Gln Asn Phe Gly Tyr Asp Gly Ala Met Leu Leu Ala Leu Leu Ile
          50          55          60
Cys Ala Ala Val Phe Leu Gly Val Ala Trp His Thr Tyr Gly Thr Tyr
65          70          75          80
His Ala Ile His Asp Gly Lys Lys Lys Trp Ser Asp Leu Gly Ala Gly
          85          90          95
Val Ala Val Gly Val Gly Leu Leu Ile Leu Ile Ile Tyr Leu Val Thr
          100          105          110
Lys Ala Thr Ala Ile Met
          115
```

<210> 132

<211> 123

<212> PRT

<213> Pseudomonas aeruginosa

<400> 132

```
Met Ser Met Ser Gly Ala Gln Thr Ser Ala Phe Gln Ala Ala Ala Gly
 1          5          10          15
Phe Pro Pro Ser Ala Gly Glu Gly Leu Phe Ile Gly Ala Ala Met Thr
          20          25          30
Phe Leu Leu Leu Trp Ser Ala Trp Ala Met Tyr Ser Thr Trp Arg Gly
          35          40          45
Trp Ala Thr Asn Asn Leu Arg Gln Arg His Arg Trp Arg Phe Arg Asp
          50          55          60
```

Pro Gly Ser Trp Ser Ser Ser Ala Ser Pro Leu Ser Ser Ser Ser Ala  
65 70 75 80  
Asp Pro Tyr Gly Asp Thr His Ala Glu Thr His Pro Pro Glu Thr Val  
85 90 95  
Arg Pro Leu Pro Glu Pro Gly Arg His His Phe Gly Ala Pro Arg Tyr  
100 105 110  
Arg Leu Gly Cys Thr Pro Gln Thr Arg Gly Thr  
115 120

<210> 133  
<211> 119  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 133  
Leu Ile Cys Thr Arg Phe Ala Val Asn Thr Pro His Pro Ser Leu Arg  
1 5 10 15  
Arg Ser Cys Leu Ala Val Leu Ala Cys Ser Ala Leu Val Ala Gln Gly  
20 25 30  
Ala Phe Ala Ala Ser Ala Ser Glu Gln Ala Asn Leu Glu Val Met Ile  
35 40 45  
Arg Gln Leu Asn Ala Leu Glu Asp Thr Ala Arg Arg Ser Ala Gln Gly  
50 55 60  
Ala Asp Glu Pro Gly Gln Arg Phe Tyr Phe Asp Tyr Pro Arg Leu Ala  
65 70 75 80  
Ala Asp Leu Gln Arg Ile Arg Gln Gly Leu Gln Asp Tyr Met Thr Pro  
85 90 95  
Ser Arg Ala Gln Pro Arg Asp Pro Ser Asp Leu Ser Gly Asn Tyr Thr  
100 105 110  
Leu Arg Gly Gly Pro Met Pro  
115

<210> 134  
<211> 101  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 134  
Met Ser Ile Lys Gln Pro Phe Glu Tyr His Val Glu Asn Ile Val Ile  
1 5 10 15  
Pro Tyr Lys Thr Leu Thr Lys Gly Val Ala Met Phe Lys His Lys Glu  
20 25 30  
Asp Thr Leu Glu Pro Asp Asp His Ala Leu Leu Asn Pro Leu Arg Trp  
35 40 45  
Ala Glu Val Val Arg Leu Gly Gln Glu Gly Trp Glu Leu Val Ser Val  
50 55 60  
Gln Pro Leu Met Arg Gly Val Thr Glu Ile Gly Asn Gln Asn Ala Gln  
65 70 75 80  
Gly Trp Ala Trp Gly Val Ala Leu Pro Val Ser Tyr Leu Leu Phe Phe  
85 90 95  
Lys Arg Ala Thr Ser  
100

<210> 135  
<211> 103  
<212> PRT

<213> Pseudomonas aeruginosa

<400> 135

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Arg | Asn | Ile | Ser | Ile | Gly | Val | Leu | Leu | Ala | Met | Ala | Ala | Met |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Leu | Gly | Ser | Tyr | Gly | Val | Ala | Ala | Ala | Thr | Leu | Arg | Cys | Gly | Ser | Ala |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ile | Val | Ser | Glu | Gly | Asp | Leu | Ile | Asp | Asp | Val | Leu | Arg | Lys | Cys | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Asn | Pro | Asp | Ser | Arg | Lys | Ile | Glu | Gly | Pro | Ala | Val | Asp | Gly | Ser | Gly |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Tyr | Ile | Val | Arg | Gly | Ala | Ala | Thr | Val | Glu | Asn | Trp | Val | Tyr | Gly | Pro |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Arg | Asn | Gly | Trp | Tyr | Gln | Lys | Leu | Arg | Phe | Val | Asp | Gly | Arg | Leu | Val |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gln | Ile | Lys | Gly | Ser | Met | Asp |     |     |     |     |     |     |     |     |     |
|     |     |     | 100 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 136

<211> 385

<212> PRT

<213> Pseudomonas aeruginosa

<400> 136

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Ile | Leu | Asp | Phe | Asp | Gly | Arg | Leu | Leu | Asn | Pro | Ser | Asn |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Met | Leu | Glu | Ala | Leu | Ser | Lys | Ala | Gly | Lys | Asn | Thr | Ser | Ile | Ser | Ile |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ser | Asn | Ala | Gln | Ala | Leu | Asn | Ile | Glu | Thr | Leu | Leu | Lys | Ala | Thr | Thr |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Thr | Ala | Glu | Asn | Thr | Lys | Asn | Leu | Ser | Thr | Thr | Phe | Asn | Gly | Ala | Glu |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Leu | Thr | Ala | Asn | Asn | Leu | Gln | Gln | Val | Ile | Asn | Ser | Ala | Gly | Ser | Leu |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Thr | Arg | Val | Ser | Thr | Ile | Ala | Ala | Gln | Ala | Ile | Asn | Ile | Asn | Thr | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Ser | Ala | Ile | Ser | Thr | Ala | Gly | Asn | Ser | Lys | Asn | Phe | Ser | Ala | Glu |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Phe | Asn | Gly | Ala | Gln | Leu | Ser | Ser | Asp | Asn | Leu | Leu | Arg | Ala | Val | Asn |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ala | Ala | Gly | Thr | Asn | Thr | Ser | Ile | Ser | Val | Asn | Thr | Ala | Gln | Ala | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asn | Ile | Thr | Ala | Leu | Leu | Gln | Thr | Ile | His | Ala | Ala | Gly | Asp | Thr | Lys |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Thr | Phe | Ser | Ala | Glu | Phe | Asn | Gly | Ala | Gln | Leu | Thr | Ser | Asn | Asn | Ile |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gln | Gln | Ala | Leu | Asp | Ala | Ala | Gly | Thr | Arg | Thr | Ser | Ile | Ser | Val | Asn |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Thr | Ala | Gln | Ala | Val | Asn | Ile | Ser | Thr | Leu | Leu | Ala | Leu | Ile | Asn | Ser |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Ala | Lys | Asp | Thr | Lys | Lys | Phe | Ser | Ala | Asp | Phe | Asn | Gly | Ala | Gln | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |
| Thr | Ala | Asp | Asn | Leu | Gln | Gln | Ala | Ile | Ser | Ala | Ala | Ala | Ser | Gly | Thr |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Asn | Ile | Ser | Val | Asn | Thr | Ala | Gln | Ala | Ala | Asn | Ile | Ser | Thr | Leu | Leu |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Gln | Ala | Ile | Asn | Ile | Ala | Gly | Asn | Thr | Lys | Lys | Phe | Ser | Ala | Asn | Phe |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Asn | Gly | Ala | Gln | Leu | Thr | Ser | Asn | Asn | Ile | Gln | Gln | Ala | Leu | Arg | Ala |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| Thr | Gly | Ser | Asn | Thr | Ser | Ile | Ser | Met | Asn | Ser | Ala | Gln | Ser | Ala | Asn |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Gln | Ser | Thr | Leu | Leu | Glu | Leu | Leu | Asp | Ile | Ala | Ser | Ser | Ser | Lys | Gln |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |
| Phe | Gln | Ala | Asn | Tyr | Asn | Gly | Gly | Met | Ser | Asn | Pro | Asn | Asn | Leu | Gln |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |  |
| Gln | Ile | Val | Phe | Pro | Cys | Arg | Arg | Gln | Tyr | Asn | Arg | Val | Tyr | Phe | Arg |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Arg | Thr | Arg | Pro | Thr | Asn | Arg | Lys | Tyr | Pro | Tyr | Pro | Tyr | Ile | Ile | Cys |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Arg | Met | Arg | Leu | Ile | Ala | Val | Asp | Glu | Asn | Thr | Pro | Ser | Thr | Ala | Ile |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 385 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 137

<211> 493

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 137

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Val | Gln | Trp | Thr | His | Glu | Gln | Ser | Pro | Ile | Ile | Gln | Ser | Lys | Ala | Pro |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Lys | Ile | Leu | Val | Arg | Ala | Phe | Ala | Gly | Thr | Gly | Lys | Thr | Thr | Thr | Leu |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Val | Gly | Phe | Ala | Arg | Ser | Asn | Pro | Thr | Leu | Arg | Ile | Leu | Tyr | Leu | Cys |  |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Tyr | Asn | Ser | Ser | Val | Glu | Lys | Ala | Ala | Lys | Gly | Lys | Phe | Pro | Arg | Asn |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Val | Val | Cys | Lys | Thr | Ala | His | Ser | Leu | Ala | His | Ala | Val | Tyr | Gly | Ile |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |  |
| Gln | Tyr | Ala | His | Lys | Lys | Thr | Lys | Asn | Leu | Arg | Leu | Thr | Asp | Ile | Ala |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |
| Arg | Gly | Leu | Asp | Thr | Gln | Asp | Trp | Glu | Leu | Val | Arg | Asp | Val | Leu | Ala |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Thr | Leu | Asn | Asn | Tyr | Met | Ala | Ser | Ala | Asp | Ala | Glu | Leu | Gly | Arg | Pro |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| His | Phe | Pro | Arg | Phe | Arg | Asp | Lys | Ala | Phe | Leu | Thr | Ser | Ala | Gln | Glu |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Arg | Phe | Leu | Lys | Gln | Gly | Leu | Asp | Met | Ala | Arg | Val | Val | Trp | Arg | Arg |  |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |  |
| Met | Val | Asp | Leu | Gln | Asp | Thr | Gly | Met | Leu | Met | Pro | Leu | Asp | Gly | Tyr |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |
| Leu | Lys | Leu | Tyr | Gln | Leu | Ser | Lys | Pro | Asp | Leu | Ser | Gln | Arg | Phe | Asp |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Cys | Met | Leu | Leu | Asp | Glu | Gly | Gln | Asp | Ile | Asn | Pro | Val | Ile | Ala | Asp |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Ile | Ala | His | Trp | Gln | Arg | Ile | Arg | Met | Ala | Ile | Val | Gly | Asp | Pro | His |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| Gln | Gln | Leu | Tyr | Arg | Phe | Arg | Gly | Ala | Glu | Asp | Ala | Leu | Asn | Ser | Asp |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Trp | Met | Ala | Gly | Ala | Glu | Glu | His | Tyr | Leu | Thr | Gln | Ser | Trp | Arg | Phe |  |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| Gly | Pro | Ala | Ile | Ala | His | Val | Ala | Asn | Ile | Ile | Leu | Ser | Tyr | Lys | Gly |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Glu | Thr | Arg | Lys | Leu | Gln | Gly | Leu | Gly | Pro | Gln | Thr | Leu | Val | Lys | Lys |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Ser | Leu | Pro | Pro | Asp | Leu | Pro | His | Arg | Thr | Phe | Ile | His | Arg | Thr | Val |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ile | Gly | Val | Ile | Glu | Asn | Ala | Leu | Gln | Leu | Val | Arg | Asn | His | Pro | Glu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Pro | Lys | Phe | His | Trp | Val | Gly | Gly | Ile | Asp | Ser | Tyr | Ser | Leu | Arg | Asp |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Leu | Glu | Asp | Leu | Tyr | Ala | Phe | Ser | Arg | Gly | Leu | Arg | Gln | Asn | Val | Gln |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Asn | Lys | Lys | Leu | Leu | Arg | Asp | Tyr | Arg | Asp | Tyr | Thr | Gln | Tyr | Val | Glu |
|     |     | 355 |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Ile | Ala | Glu | Ile | Ser | Gln | Asp | Gly | Glu | Met | Leu | Arg | Ser | Ile | Lys | Ile |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ile | Ser | Thr | Tyr | Pro | Asp | Leu | Pro | Ala | Arg | Ile | Leu | Glu | Leu | Arg | Ser |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Leu | Thr | Leu | Asp | Asp | Glu | Leu | Asp | Ala | Thr | Ile | Thr | Leu | Thr | Thr | Ala |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| His | Lys | Ala | Lys | Gly | Leu | Glu | Trp | Asp | Phe | Val | Cys | Leu | Tyr | Asp | Asp |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Phe | Asn | Ala | Asp | Pro | Leu | Ala | Pro | Asp | Thr | Asp | Pro | Gly | Lys | Arg | Asp |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Asp | Glu | Leu | Asn | Leu | Ile | Tyr | Val | Ala | Val | Thr | Arg | Ala | Met | Lys | Ile |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Leu | Ala | Ile | Asn | Ser | Leu | Val | Leu | Ser | Ile | Met | Gln | Arg | Tyr | Val | Asp |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Asp | Arg | Lys | Leu | Lys | Glu | Gln | Ile | Ala | Ser | Cys | Lys | Lys |     |     |     |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     |     |

<210> 138  
 <211> 216  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 138

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Gly | Ser | Leu | Ile | Gly | Ala | Ile | Ile | Val | Glu | Trp | Val | Cys | Leu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Tyr | Phe | Phe | Trp | Pro | Asp | Ala | Gly | Trp | Lys | His | Ala | Gln | Ala | Met | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Tyr | Glu | Leu | Ser | Trp | Leu | Ser | Gln | Gly | Leu | Leu | His | Ser | Val | Val |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Val | Gln | Glu | Pro | Gly | Arg | Thr | Ala | Thr | Trp | Leu | Ala | Gln | Leu | Ala | Tyr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Trp | Leu | Phe | Val | Lys | Thr | Gly | Met | Val | Asp | Trp | Met | Thr | Asn | Met |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Thr | Thr | Ile | Ala | Gln | Ala | Arg | Pro | Arg | Ser | Pro | Leu | Asp | Val | Arg | Tyr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Leu | Thr | Ala | His | Gly | Val | Ser | Thr | Leu | Gln | Asn | Tyr | Gly | Leu | Ala | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Tyr | Thr | Val | Leu | Thr | Phe | Val | Val | Arg | Leu | Val | Ile | Leu | Val | Met |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Thr | Ile | Pro | Leu | Phe | Val | Met | Ala | Ala | Phe | Thr | Gly | Leu | Val | Asp | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Val | Arg | Arg | Asp | Leu | Arg | Lys | Phe | Gly | Ala | Gly | Arg | Glu | Ser | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Tyr | Leu | Tyr | His | Lys | Ala | Arg | Gly | Ser | Ile | Ile | Pro | Leu | Ala | Val | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Pro | Trp | Thr | Leu | Tyr | Leu | Ala | Ile | Pro | Ile | Ser | Ile | Asn | Pro | Leu | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Leu | Leu | Pro | Cys | Ala | Ala | Leu | Leu | Gly | Val | Ala | Val | Cys | Ile | Thr |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | Ser | Thr | Phe | Lys | Lys | Tyr | Leu |     |     |     |     |     |     |     |     |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     |     |     |     |     |

<210> 139  
 <211> 931  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 139

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Lys | Asn | Phe | Leu | Gln | Pro | Phe | Asp | Ser | Gly | Phe | Ser | Thr |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Pro | Ser | Ala | Ala | Leu | Lys | Leu | Leu | Arg | Met | Leu | Gly | Gly | Ala | Leu | Met |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Leu | Cys | Val | Leu | Cys | Ser | Leu | Ile | Phe | Ser | Val | Ser | Met | Val | Leu | Asn |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| His | Gln | Val | Ser | Leu | Ser | Arg | Gln | Ala | Met | Asn | Val | Ala | Met | Tyr | Glu |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ala | Gln | Leu | Tyr | Phe | Glu | Gln | Arg | Glu | Ala | Leu | Leu | Asn | His | Leu | Ser |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Gly | Asn | Val | Val | Pro | Leu | Ala | Ala | Gly | Arg | Ala | Leu | Val | Asn | Glu | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Pro | Asn | Asn | Val | Ser | Ile | Leu | Pro | Leu | Ser | Asp | Gly | Gly | Arg | Gly | Leu |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Leu | Leu | Thr | Ala | Arg | Thr | Leu | Gly | Asp | Leu | Arg | Glu | Lys | Arg | Leu | Ala |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Leu | Met | Tyr | Leu | Val | Asp | Thr | Asp | Lys | Gly | Pro | Leu | Val | Tyr | Arg | Leu |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Thr | Ala | Asp | Gly | Arg | Pro | Ser | Ala | Ala | Ile | Ser | Ser | Thr | Ile | Thr | Lys |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Glu | Val | Tyr | Arg | Ala | Leu | Leu | Ala | Thr | Pro | Ser | Ala | Pro | Val | His | Trp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Val | Thr | Asp | Gly | Gly | Thr | Pro | Gln | Arg | Leu | Tyr | Leu | Phe | Glu | Ser | Leu |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Gly | Asp | Glu | Pro | Gly | Glu | Gly | Trp | Leu | Gly | Leu | Glu | Ile | Leu | Gly | Glu |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Asp | Leu | Asp | Ser | Met | Leu | Arg | Asn | Asp | Ala | Gly | Asn | Tyr | Met | Leu |     |
|     | 210 |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |     |
| Leu | Asp | Gln | His | Gly | Gln | Val | Val | Leu | Ala | Thr | Asp | Ala | Glu | Ala | Leu |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     | 240 |
| Gly | Ser | Gly | Ala | Ser | Arg | Thr | Leu | Leu | Arg | Gly | Asp | Gly | Phe | Gly | Phe |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Ile | Gly | Ala | Gly | Pro | Leu | Pro | Gln | His | Met | Val | Leu | Phe | Gln | His | Val |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Gly | Ser | Ser | Ser | Trp | Asp | Leu | Ile | Tyr | His | Ile | Gly | Ile | Gly | Arg | Leu |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Leu | Leu | Ala | Leu | Trp | Leu | Pro | Leu | Leu | Ala | Ser | Ala | Leu | Ala | Leu |     |
|     | 290 |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |     |
| Ala | Val | Gly | Ile | Leu | Leu | His | Trp | Leu | Val | Arg | Ser | Ile | Glu | Arg | Arg |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     |     | 320 |
| Leu | Ile | Glu | Pro | Ala | Lys | Arg | Arg | Leu | Glu | Ala | Leu | Lys | Glu | Ser | Glu |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Ala | Phe | Ser | Arg | Ala | Val | Ile | Gln | Ala | Ala | Pro | Val | Ala | Leu | Cys | Val |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |     |
| Leu | Arg | Arg | Ala | Asp | Ala | Ala | Val | Val | Leu | Glu | Asn | Pro | Gln | Ala | Arg |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Gln | Trp | Leu | Gly | Asp | Ser | Glu | Ala | Ile | Ala | His | Asp | Ala | Pro | Arg | Trp |

|                     |                         |                         |  |     |
|---------------------|-------------------------|-------------------------|--|-----|
| 370                 |                         | 375                     |  | 380 |
| Ile Ser Gln Ala Phe | Ala Gly Gly Val Lys Cys | Ser Gly Glu Glu Leu     |  |     |
| 385                 |                         | 390                     |  | 400 |
| Glu Thr Glu Ala Gly | Leu His Leu His Leu Asn | Tyr Thr Pro Thr Arg     |  |     |
|                     | 405                     | 410                     |  | 415 |
| Tyr Asn Gly Glu Asp | Val Leu Phe Cys Ala Phe | Ser Glu Ile Ser Ala     |  |     |
|                     | 420                     | 425                     |  | 430 |
| Arg Lys Arg Met Glu | Ala Glu Leu Ala Arg Ala | Lys Ser Leu Ala Asp     |  |     |
|                     | 435                     | 440                     |  | 445 |
| Ala Ala Asn Glu Ala | Lys Thr Leu Phe Leu Ala | Thr Met Ser His Glu     |  |     |
|                     | 450                     | 455                     |  | 460 |
| Ile Arg Thr Pro Leu | Tyr Gly Met Leu Gly Thr | Leu Glu Leu Leu Gly     |  |     |
| 465                 |                         | 470                     |  | 480 |
| Arg Thr Glu Leu Ser | Arg Gln Gln Ala Gly Tyr | Leu Lys Ala Ile Gln     |  |     |
|                     | 485                     | 490                     |  | 495 |
| His Ser Ser Ser Thr | Leu Leu Gln Leu Ile Ser | Asp Val Leu Asp Val     |  |     |
|                     | 500                     | 505                     |  | 510 |
| Ser Lys Ile Glu Ala | Gly Gln Leu Asp Leu Glu | Cys Val Glu Phe Ser     |  |     |
|                     | 515                     | 520                     |  | 525 |
| Pro Leu Glu Leu Thr | Glu Glu Val Val Gln Ser | Phe Thr Gly Ala Ala     |  |     |
|                     | 530                     | 535                     |  | 540 |
| Gln Ala Lys Gly Leu | Gln Leu Tyr Thr Cys Leu | Ser Ala Glu Leu Pro     |  |     |
| 545                 |                         | 550                     |  | 560 |
| Leu Arg Met Arg Gly | Ala Ala Ala Ser Ile Arg | Gln Ile Leu Asn Asn     |  |     |
|                     | 565                     | 570                     |  | 575 |
| Leu Leu Ser Asn Ala | Val Lys Phe Thr Asp     | Asn Gly Tyr Val Asn Val |  |     |
|                     | 580                     | 585                     |  | 590 |
| His Leu Lys Ala Ser | Val Val Asp Ala Glu     | Cys Val Met Leu Thr Trp |  |     |
|                     | 595                     | 600                     |  | 605 |
| Gln Val Asn Asp Thr | Gly Met Gly Ile Asn Val | Glu Asp Gln Pro Arg     |  |     |
|                     | 610                     | 615                     |  | 620 |
| Leu Phe Glu Pro Phe | Tyr Gln Ile Arg Arg     | Ser Glu His Pro Val Ala |  |     |
| 625                 |                         | 630                     |  | 640 |
| Gly Thr Gly Leu Gly | Leu Ser Ile Ser Gln Arg | Leu Ala Gln Leu Met     |  |     |
|                     | 645                     | 650                     |  | 655 |
| Asn Gly Ser Leu Lys | Leu Val Ser Glu Leu     | Gly Leu Gly Ser Ser Phe |  |     |
|                     | 660                     | 665                     |  | 670 |
| Ser Leu Arg Leu Pro | Leu Glu Arg Ile Ala     | Met Gln Ala Glu Pro Gln |  |     |
|                     | 675                     | 680                     |  | 685 |
| Asp Leu Ala Gly Cys | Ala Val Gln Val Leu Ala | Pro Val Arg Asp Leu     |  |     |
|                     | 690                     | 695                     |  | 700 |
| Thr Glu Cys Leu Cys | Gly Trp Ile Ser Arg Trp | Gly Gly Arg Ala Met     |  |     |
| 705                 |                         | 710                     |  | 720 |
| Val Ala Thr Pro Arg | Ser Leu Asp Glu Ala     | Asp Ala Thr Ser Leu Leu |  |     |
|                     | 725                     | 730                     |  | 735 |
| Val Lys Val Leu Leu | Glu Gly Ala Pro Met     | Phe Glu Ala Trp Pro     |  |     |
|                     | 740                     | 745                     |  | 750 |
| Gly Cys Arg Val Glu | Leu Ser Pro Gln Gly     | Asp Met Glu Pro Gln Ala |  |     |
|                     | 755                     | 760                     |  | 765 |
| Gln Gly Arg Asp Trp | Leu Leu Gly Leu Asn     | Asn Leu Asn Gly Leu His |  |     |
|                     | 770                     | 775                     |  | 780 |
| Arg Ala Leu Gly Leu | Ala His Gly Arg Leu     | Ala Asp Pro Ser Thr Pro |  |     |
| 785                 |                         | 790                     |  | 800 |
| Pro Ile Arg Leu Ala | Pro Leu Arg Asn Leu     | Gly Leu Arg Val Leu Val |  |     |
|                     | 805                     | 810                     |  | 815 |
| Val Glu Asp Asn Ala | Ile Asn Gln Leu Ile     | Leu Arg Asp Gln Met Glu |  |     |
|                     | 820                     | 825                     |  | 830 |
| Ala Leu Gly Cys Ser | Val Glu Leu Leu Phe     | Asp Gly Arg Glu Ala Leu |  |     |
|                     | 835                     | 840                     |  | 845 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | His | Cys | Gln | Thr | Ala | Cys | Phe | Asp | Val | Val | Leu | Thr | Asp | Ile | Asn |
| 850 |     |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |
| Met | Pro | Asn | Met | Asn | Gly | Tyr | Glu | Leu | Thr | Ala | Glu | Leu | Arg | Arg | Gln |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |
| Gly | Phe | Arg | Gln | Pro | Ile | Ile | Gly | Ala | Thr | Val | Asn | Ala | Met | Arg | Glu |
|     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |
| Glu | Arg | Glu | Arg | Cys | Met | Ser | Ala | Gly | Met | Asn | Asp | Cys | Leu | Val | Lys |
|     |     |     | 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |
| Pro | Val | Asp | Leu | Asn | Ala | Leu | Gln | Asn | Cys | Leu | Ile | Asn | Ile | Leu | Lys |
|     |     | 915 |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |
| Val | Asp | Arg |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 930 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 140  
 <211> 399  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 140

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Trp | Lys | Ser | Tyr | Arg | Val | Leu | Val | Val | Glu | Asp | Gln | Pro | Phe |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Arg | Glu | Tyr | Leu | Leu | Asn | Leu | Phe | Arg | Glu | Arg | Gly | Val | Gln | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Val | Gly | Ala | Gly | Asp | Gly | Ala | Glu | Ala | Leu | Arg | Cys | Leu | Lys | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Arg | Phe | Asp | Leu | Ile | Leu | Ser | Asp | Leu | Met | Met | Pro | Gly | Met | Asp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Ile | Gln | Met | Ile | Leu | Gln | Leu | Pro | Tyr | Leu | Lys | His | Arg | Pro | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Ala | Leu | Met | Ser | Ser | Ser | Ser | Gln | Arg | Met | Met | Leu | Ser | Ala | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Val | Ala | Gln | Ser | Leu | Gly | Leu | Ser | Val | Ile | Asp | Leu | Leu | Pro | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Pro | Thr | Leu | Pro | Lys | Ala | Ile | Gly | Gln | Leu | Leu | Glu | His | Leu | Glu | Arg |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Cys | Leu | Arg | Gln | Lys | Leu | Glu | Pro | Glu | Thr | Asp | Glu | Thr | Pro | His | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Thr | Ala | Leu | Leu | Asp | Ala | Leu | His | Asn | Glu | Gln | Leu | Val | Thr | Trp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Phe | Gln | Ala | Lys | Lys | Ser | Leu | His | Thr | Gly | Arg | Ile | Val | Gly | Ala | Glu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ala | Leu | Ile | Arg | Trp | Ser | His | Pro | Gln | His | Gly | Leu | Leu | Leu | Pro | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Cys | Phe | Met | Ser | Asp | Val | Asp | Ala | Thr | Gly | Leu | His | Glu | Ala | Leu | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Trp | Arg | Val | Leu | Glu | Gln | Thr | Leu | Asn | Ala | Gln | Glu | Ser | Trp | Arg | Arg |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | Gly | Tyr | Glu | Ile | Pro | Val | Ser | Val | Asn | Leu | Pro | Pro | His | Leu | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Asp | Asn | Gln | Glu | Leu | Pro | Asp | Arg | Leu | Tyr | Glu | Tyr | Val | Gly | Ala | Arg |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gly | Ala | Cys | Thr | Ser | Ser | Leu | Cys | Phe | Glu | Leu | Thr | Glu | Ser | Ser | Val |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Thr | Thr | Leu | Ser | Ser | Asn | Tyr | Tyr | Ala | Gly | Ala | Cys | Arg | Leu | Arg | Met |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Lys | Gly | Phe | Gly | Leu | Ala | Gln | Asp | Asp | Phe | Gly | Gln | Gly | Tyr | Ser | Ser |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Phe | Tyr | Asn | Leu | Val | Thr | Thr | Pro | Phe | Thr | Glu | Leu | Lys | Ile | Asp | Arg |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Ser | Leu | Val | Gln | Gly | Cys | Val | Glu | Asp | Asn | Gly | Leu | Asn | Ala | Ala | Val |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ile | Ser | Cys | Ile | Glu | Leu | Gly | His | Arg | Leu | Asn | Leu | Asp | Val | Val | Ala |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Glu | Gly | Val | Glu | Thr | Cys | Glu | Glu | Leu | Asn | Leu | Leu | Arg | Arg | Leu | Gly |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Cys | Asp | Arg | Ala | Gln | Gly | Phe | Leu | Ile | Ser | Lys | Ala | Val | Ser | Ala | Arg |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Glu | Phe | Glu | Arg | Gln | Leu | Arg | Glu | Asp | Gly | Pro | Ser | Leu | Leu | Val |     |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |     |

<210> 141  
 <211> 1084  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 141 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Val       | Lys | Ser | Ala | Ser | Ala | Leu | Glu | His | Asp | Asn | Lys | Leu | Leu | Leu | Lys |
| 1         |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Trp       | Thr | Thr | Leu | Ser | Gln | Ser | Leu | Ser | Ile | Gly | Leu | Ile | Cys | Val | Val |
|           |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val       | Leu | Thr | Val | Leu | Leu | Phe | Ser | Ile | Cys | Tyr | Trp | Ser | Leu | Gly | Arg |
|           |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu       | Phe | Gln | Glu | Glu | Glu | Asp | Lys | Val | Ser | Phe | His | Phe | Thr | Arg | Met |
|           | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Met       | Asp | Val | Ile | Arg | Glu | His | Glu | Val | Phe | Leu | Gly | Arg | Ile | Ala | Arg |
| 65        |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Lys       | Ser | Asp | Lys | Thr | Thr | Gln | Lys | Tyr | Asp | Tyr | Asp | Val | Val | Pro | Leu |
|           |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gln       | Arg | His | Leu | Leu | Ala | Lys | Glu | Asn | Gly | Leu | Ala | Val | Tyr | Glu | Gly |
|           |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg       | Glu | Phe | Ser | Phe | Ala | Met | Pro | Phe | Leu | Leu | Ala | Thr | Lys | His | Ala |
|           |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Leu       | Ser | Ala | Asp | Ser | Ser | Gly | Asp | Pro | Phe | Ser | Leu | Gly | Val | Leu | Leu |
|           |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala       | Asn | Phe | Tyr | Gly | Ser | Phe | Trp | Ser | Val | Ser | Ala | Tyr | Pro | Ala | Pro |
| 145       |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gln       | Leu | Leu | Ile | Phe | Asp | Leu | Ser | Gly | Ser | Thr | Arg | Leu | Ala | Val | Pro |
|           |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ser       | Ile | Pro | Ser | Thr | Ala | Gln | Arg | Asp | Arg | Leu | Ser | Gly | Ser | Tyr | Pro |
|           |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Met       | Ile | Val | Glu | Arg | Ile | Leu | Ala | Arg | Leu | Arg | Thr | Arg | Pro | Val | Gly |
|           |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu       | Asp | Ala | Gln | Arg | Val | His | Trp | Ile | Arg | Ala | Asp | Arg | Tyr | Arg | Asp |
|           | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser       | Ala | Leu | Glu | Met | Leu | Gly | Val | Ala | Arg | Val | Asp | Leu | Pro | Glu | Thr |
| 225       |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Leu       | Trp | Trp | His | Asp | Glu | Pro | Asn | His | Leu | Ile | Ile | Ala | Ala | Ser | Leu |
|           |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Leu       | Asp | Leu | Arg | Arg | Ile | Asn | Asp | Phe | Glu | Gln | Leu | Val | Glu | Arg | Pro |
|           |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ala       | Phe | Asp | Ser | Tyr | Ser | Leu | Val | Ser | Pro | Asp | Gly | Glu | Val | Leu | Leu |
|           |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gly       | Ala | Ala | Pro | Ala | Thr | Gly | Leu | Arg | Asp | Gly | Leu | Asn | Leu | Thr | Arg |
|           | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Gln       | Gly | Val | Ala | Val | Gln | Leu | Leu | Ser | Gln | Pro | Glu | Asn | Gly | Trp | Leu |
| 305       |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Val | Tyr | Arg | Thr | Asp | Tyr | Gly | Asn | Phe | Phe | Arg | His | Ser | Arg | Trp |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Leu | Val | Ala | Gly | Leu | Leu | Leu | Thr | Pro | Ala | Leu | Leu | Leu | Ala | Gly | Trp |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Leu | Gly | Met | Arg | Trp | Tyr | Thr | Ser | Ser | Val | Val | Asn | Pro | Val | His | Arg |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ala | His | Arg | Gln | Leu | Val | Glu | Ser | Asp | Thr | Phe | Ser | Arg | Thr | Leu | Ile |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Gln | Thr | Ala | Pro | Val | Ala | Leu | Val | Val | Leu | Thr | Gln | Asp | Asp | Gln | Gln |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Leu | Val | Thr | Cys | Asn | His | Leu | Ala | Ala | Gln | Trp | Leu | Gly | Gly | Pro | Thr |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Glu | Ile | Leu | Gly | Leu | Thr | Ser | Asn | Trp | Lys | Leu | Phe | Asp | Ala | Arg | Gly |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Gln | Val | Pro | Gly | Asp | Ile | Cys | Ile | Gln | Val | Gly | Gly | Arg | Tyr | Leu | Gln |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Thr | Ala | Phe | Ala | Ala | Thr | Arg | Tyr | Ala | Gly | Thr | Glu | Ala | Val | Leu | Cys |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Val | Phe | Asn | Asp | Ile | Thr | Val | His | Cys | Glu | Ala | Glu | Thr | Ala | Leu | Ser |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Asn | Ala | Lys | Arg | Ala | Ala | Asp | Ala | Ala | Ser | Gln | Ala | Lys | Thr | Leu | Phe |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Leu | Ala | Arg | Met | Ser | His | Glu | Ile | Arg | Thr | Pro | Leu | Tyr | Gly | Val | Leu |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Gly | Thr | Leu | Glu | Leu | Leu | Asp | Leu | Thr | Thr | Leu | Asn | Glu | Arg | Gln | Arg |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Ala | Tyr | Leu | Arg | Thr | Ile | Gln | Ser | Ser | Ser | Ala | Thr | Leu | Met | Gln | Leu |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Ile | Ser | Asp | Val | Leu | Asp | Val | Ser | Lys | Ile | Glu | Ala | Gly | Gln | Met | Ala |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Leu | Thr | Leu | Ala | Ala | Phe | Asn | Pro | Leu | Asp | Leu | Val | Arg | Glu | Val | Leu |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Gly | Asn | Phe | Ala | Ala | Ser | Ala | Met | Ala | Lys | Asp | Leu | Gln | Phe | Tyr | Ala |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| Cys | Ile | Asp | Thr | Glu | Val | Pro | Ala | Gln | Leu | Ile | Gly | Asp | Val | Thr | Arg |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Ile | Arg | Gln | Val | Leu | Asn | Asn | Leu | Val | Asn | Asn | Ala | Leu | Lys | Phe | Thr |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |
| Asp | Ile | Gly | Arg | Val | Val | Leu | Arg | Val | Lys | Leu | Leu | Ser | Arg | Asn | Asp |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |
| Gly | Arg | Ala | Leu | Leu | Gln | Trp | Gln | Val | Ala | Asp | Thr | Gly | Ile | Gly | Ile |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     | 655 |     |
| Ala | His | Glu | Gln | Gln | Glu | Arg | Leu | Phe | Glu | Ala | Phe | Tyr | Gln | Val | Ser |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |
| Gly | Ala | His | His | Ala | Gly | Gly | Thr | Gly | Leu | Gly | Leu | Ser | Ile | Cys | Trp |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |
| His | Leu | Ala | Glu | Met | Met | Gly | Gly | His | Leu | Arg | Met | Val | Ser | Glu | Thr |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |
| Gly | Leu | Gly | Ser | Ser | Phe | Ser | Leu | Val | Leu | Glu | Leu | Pro | Glu | Asp | Glu |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |
| Gln | Ser | Gly | Leu | Ala | Cys | Arg | Pro | Gly | Leu | Leu | Lys | Ser | Ala | Cys | Val |
|     |     |     | 725 |     |     |     |     |     | 730 |     |     |     |     | 735 |     |
| His | Val | Arg | Ser | Pro | Val | Arg | Glu | Leu | Ala | Asp | Ser | Val | Gly | Ala | Trp |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |
| Leu | Lys | Ala | Trp | Gly | Cys | Lys | Val | Ser | Ser | Gly | Glu | Ala | Ala | Pro | Ser |
|     | 755 |     |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |
| Glu | Leu | Glu | Thr | Cys | Val | Leu | Glu | Leu | Leu | Leu | Pro | Met | Ala | Ala | Gly |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |
| Pro | Ala | Ser | Ser | Pro | Trp | Pro | Gly | Pro | Arg | Val | Arg | Ala | Ser | Met | Asp |

|      |      |     |      |     |      |      |      |      |      |      |      |      |      |      |      |
|------|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|
| 785  |      | 790 |      | 795 |      | 800  |      |      |      |      |      |      |      |      |      |
| Ala  | Pro  | Cys | Gln  | Pro | Glu  | Leu  | Arg  | Glu  | Asp  | Gly  | Trp  | Arg  | Val  | Gly  | Leu  |
|      |      |     | 805  |     |      |      |      |      | 810  |      |      |      |      | 815  |      |
| His  | Asn  | Leu | Ala  | Gly | Ile  | Gly  | Gln  | Ala  | Leu  | Ala  | Gln  | Ala  | Leu  | Gly  | Gly  |
|      |      |     | 820  |     |      |      |      | 825  |      |      |      |      | 830  |      |      |
| Asp  | Ile  | Pro | Glu  | Gln | Thr  | Pro  | Ala  | Asn  | Ala  | Cys  | Ala  | Arg  | Ser  | Gly  | Arg  |
|      |      | 835 |      |     |      |      | 840  |      |      |      |      | 845  |      |      |      |
| Leu  | Asp  | Leu | Glu  | Val | Leu  | Val  | Ala  | Glu  | Asp  | Asn  | Pro  | Val  | Asn  | Gln  | Ala  |
|      | 850  |     |      |     |      | 855  |      |      |      |      | 860  |      |      |      |      |
| Leu  | Leu  | Arg | Glu  | Gln | Leu  | Glu  | Glu  | Leu  | Gly  | Cys  | Arg  | Val  | Ser  | Leu  | Ala  |
| 865  |      |     |      |     | 870  |      |      |      |      | 875  |      |      |      |      | 880  |
| Gly  | Asp  | Gly | Arg  | Gln | Ala  | Leu  | Gln  | Leu  | Phe  | Asp  | Ser  | Gly  | Arg  | Phe  | Asp  |
|      |      |     | 885  |     |      |      |      |      | 890  |      |      |      |      | 895  |      |
| Leu  | Leu  | Leu | Ser  | Asp | Val  | Asn  | Met  | Pro  | Asn  | Met  | Thr  | Gly  | Tyr  | Glu  | Leu  |
|      |      |     | 900  |     |      |      |      | 905  |      |      |      |      | 910  |      |      |
| Thr  | Gln  | Ala | Leu  | Arg | Glu  | Arg  | Gly  | Glu  | Thr  | Leu  | Pro  | Ile  | Ile  | Gly  | Val  |
|      | 915  |     |      |     |      |      | 920  |      |      |      |      | 925  |      |      |      |
| Thr  | Ala  | Asn | Ala  | Leu | Arg  | Glu  | Glu  | Gly  | Glu  | Arg  | Cys  | Arg  | Ala  | Val  | Gly  |
|      | 930  |     |      |     |      | 935  |      |      |      |      | 940  |      |      |      |      |
| Met  | Asn  | Ser | Trp  | Leu | Val  | Lys  | Pro  | Ile  | Thr  | Leu  | His  | Thr  | Leu  | His  | Glu  |
| 945  |      |     |      |     | 950  |      |      |      |      | 955  |      |      |      |      | 960  |
| Leu  | Leu  | Ser | Glu  | Phe | Ala  | Arg  | Ala  | Gly  | Val  | Val  | Leu  | Pro  | Ala  | Gln  | Ala  |
|      |      |     | 965  |     |      |      |      |      | 970  |      |      |      |      | 975  |      |
| Arg  | Asp  | Leu | Gly  | Pro | Pro  | Ala  | Gln  | Leu  | Asp  | Asp  | Gly  | Leu  | Ser  | Pro  | Gln  |
|      |      |     | 980  |     |      |      |      | 985  |      |      |      |      | 990  |      |      |
| Val  | Pro  | Glu | Arg  | Met | Arg  | Ala  | Leu  | Phe  | Leu  | Glu  | Thr  | Met  | Gly  | Lys  | Asp  |
|      |      | 995 |      |     |      | 1000 |      |      |      |      |      | 1005 |      |      |      |
| Leu  | Glu  | Ala | Ala  | Arg | Gln  | Ala  | Ile  | Arg  | Arg  | Asn  | Asp  | Pro  | Lys  | Gly  | Leu  |
|      | 1010 |     |      |     |      | 1015 |      |      |      |      | 1020 |      |      |      |      |
| Gln  | Gln  | Asp | Leu  | His | Arg  | Met  | Ala  | Gly  | Ser  | Leu  | Ala  | Val  | Met  | Arg  | Ala  |
| 1025 |      |     |      |     | 1030 |      |      |      |      | 1035 |      |      |      |      | 1040 |
| Arg  | Thr  | Leu | Val  | Val | Met  | Cys  | Gln  | Gly  | Ala  | Glu  | Glu  | Gly  | Leu  | Leu  | Glu  |
|      |      |     | 1045 |     |      |      |      |      | 1050 |      |      |      |      | 1055 |      |
| Ser  | Arg  | Leu | Glu  | Cys | Ser  | Ala  | Val  | Glu  | Ile  | Gly  | Glu  | Val  | Leu  | Val  | His  |
|      |      |     | 1060 |     |      |      |      | 1065 |      |      |      |      | 1070 |      |      |
| Ile  | Glu  | Gln | Ala  | Leu | Glu  | Phe  | Val  | Arg  | Lys  | Thr  | Gly  |      |      |      |      |
|      | 1075 |     |      |     |      |      | 1080 |      |      |      |      |      |      |      |      |

<210> 142  
 <211> 231  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|   |
|---|
| <400> 142   |
| Met Arg Pro Gly Ser Ile Val Gly Ile Arg Thr Gln Glu Lys Pro Met |
| 1 5 10 15   |
| Ser Lys Leu Lys Ile Val Leu Ala Asp Asp His Pro Ile Val Arg Met |
| 20 25 30  |
| Gly Val Cys Asp Met Leu Glu Arg Asp Gly Arg Phe Glu Val Val Gly |
| 35 40 45  |
| Glu Ala Ser Thr Pro Ser Glu Leu Val Glu Val Cys Arg Gln Ser Glu |
| 50 55 60  |
| Pro His Ile Ala Ile Thr Asp Tyr Ser Met Pro Gly Asp Glu Arg Tyr |
| 65 70 75 80   |
| Gly Asp Gly Leu Lys Leu Ile Asp Tyr Leu Leu Arg Asn Phe Pro Arg |
| 85 90 95  |
| Thr Lys Val Leu Ile Phe Thr Met Val Gly Asn Arg Leu Ile Leu Asp |
| 100 105 110   |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Leu | Tyr | Asp | His | Gly | Val | Ser | Gly | Val | Val | Leu | Lys | Ser | Gly | Glu |
|     |     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |
| Leu | Asp | Glu | Leu | Leu | Leu | Ala | Leu | Asp | Val | Val | Lys | Gln | Asn | Arg | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Tyr | Arg | Gly | Ala | Asn | Met | Leu | Asp | Pro | Thr | Ser | Val | Leu | Ala | Asn | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asp | Glu | Val | Glu | Ser | Arg | Phe | Ala | Arg | Leu | Ser | Met | Lys | Glu | Phe | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Leu | Arg | His | Phe | Val | Ser | Gly | Ser | Asn | Val | Cys | Asp | Ile | Ala | Arg |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Leu | Lys | Arg | Ser | Val | Lys | Thr | Val | Ser | Thr | Gln | Lys | Val | Ser | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Met | Arg | Lys | Leu | Glu | Val | Asn | Ser | Asp | Gln | Ala | Leu | Met | Thr | Phe | Cys |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Val | His | Ala | Asn | Leu | Phe | His |     |     |     |     |     |     |     |     |     |
| 225 |     |     |     |     | 230 |     |     |     |     |     |     |     |     |     |     |

<210> 143  
 <211> 238  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ser | Ser | Lys | Ile | Leu | Leu | Gln | Gly | Ala | Leu | Leu | Gly | Leu | Ala | Met |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Ala | Val | Leu | Asp | Ala | Arg | Ala | Gly | Val | Thr | Ala | Glu | Arg | Thr | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Ile | Ile | Ala | Glu | Gly | His | Arg | Glu | Thr | Ser | Leu | Leu | Leu | Val | Asn |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Gln | Asn | Ala | Tyr | Pro | Val | Ile | Val | Gln | Thr | Trp | Ile | Asp | Asp | Gly | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Asn | Ser | Thr | Pro | Gln | Ser | Ala | Arg | Ala | Pro | Ile | Met | Pro | Leu | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Val | Phe | Arg | Leu | Glu | Pro | Gly | Gln | Gln | Arg | Ser | Leu | Arg | Leu | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Thr | Gly | Gln | Ala | Leu | Pro | Gly | Asp | Arg | Glu | Ser | Leu | Tyr | Trp | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asn | Leu | Tyr | Glu | Ile | Pro | Pro | Gln | Ala | Thr | Gly | Leu | Leu | Ala | Glu | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gln | Ser | Arg | Leu | Thr | Val | Thr | Leu | Arg | Thr | Gln | Met | Lys | Val | Ile | Tyr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Pro | Arg | Pro | Leu | Ala | Arg | Gly | Ala | Glu | Glu | Ala | Pro | His | Gln | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Arg | Phe | Glu | Arg | Arg | Gly | Glu | Thr | Leu | Gln | Met | Glu | Asn | Pro | Thr | Pro |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Tyr | Phe | Ile | Ser | Leu | Ala | Gly | Ala | Glu | Leu | Gly | Gly | His | Thr | Arg | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Ala | Ala | Glu | Leu | Leu | Pro | Pro | Phe | Ser | Arg | Arg | Val | Leu | Ala | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Gln | Ala | Leu | Pro | Gly | Gly | Gln | Ala | Glu | Val | Arg | Phe | Ser | Trp | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | Asp | Gly | Gly | Asn | Leu | Gln | Gln | Gly | Arg | Ser | Leu | Leu | His |     |     |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     |

<210> 144  
 <211> 448  
 <212> PRT

<213> Pseudomonas aeruginosa

<400> 144

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Met | Lys | Thr | Ser | Leu | Arg | Val | Leu | Pro | Leu | Leu | Leu | Ala | Leu | Leu | Ala |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |  |
| Ser | Ser | Ser | Trp | Ala | Thr | Cys | Tyr | Lys | Val | Thr | Ala | Val | Gly | Asn | Ala |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Thr | Thr | Thr | Ser | Asn | Thr | Gln | Ile | Arg | Pro | Gly | Glu | Gly | Ser | Ala | Gly |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Thr | Trp | Ala | Gly | Ala | Cys | Asp | Thr | Cys | Asn | Gly | Ser | Leu | Gly | Leu | Pro |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Ser | Val | Ile | Asn | Val | Ser | Asp | Ala | Ser | Phe | Gln | Pro | Asp | Gly | Ser | Leu |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Ile | Ala | Ser | Ser | Val | Ala | Pro | Leu | Ser | Gln | Tyr | Gly | Asp | Ser | Ala | Gly |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Tyr | Asp | Pro | Glu | Arg | Val | Phe | Phe | Arg | Cys | Ala | Pro | Glu | Asp | Asp | Val |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Tyr | Glu | Met | Phe | Ser | Thr | Asn | Ala | Asp | Asp | Leu | Tyr | Ser | Gly | Trp | Tyr |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |  |
| Leu | Gly | Gly | Asp | Ser | Ala | Gly | Asn | Ser | Ile | Gly | Leu | Gln | Ser | Ala | Tyr |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Arg | Thr | Ala | Trp | Pro | Asn | Val | Leu | Leu | Arg | Leu | Thr | His | Val | Glu | Thr |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Gly | Gln | Tyr | Phe | Thr | Asp | Val | Trp | Arg | Glu | Arg | Leu | Leu | Gly | Gly | Leu |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Asp | Ile | Asp | Ser | Arg | Gly | Phe | Gln | Leu | Val | Lys | Ala | Lys | Asn | Leu | Ser |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Ala | Val | Arg | Ala | Glu | Leu | Phe | Arg | Ala | Pro | Leu | Glu | Phe | Ile | Arg | Tyr |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Tyr | Ser | Pro | Thr | Thr | Ala | Ser | Arg | Leu | Tyr | Ala | Tyr | Thr | Gln | Pro | Ala |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| Gly | Tyr | Ile | Ala | Ile | Lys | Gly | Pro | Gly | Leu | Ala | Tyr | Pro | Asn | Val | Gly |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Ala | Ser | His | Asn | Ala | Asn | Tyr | Leu | Gly | Trp | His | Tyr | Asn | Trp | Pro | Gly |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| Ala | Ile | Gly | Leu | Tyr | Asn | Asp | Val | Thr | Leu | Lys | Arg | Tyr | Pro | Thr | Cys |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Ser | Val | Thr | Asn | Val | Thr | Pro | His | Val | Val | Phe | Pro | Ser | Ile | Ser | Leu |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| Ser | Glu | Ile | Asn | Ala | Gly | Ala | Asn | Arg | Glu | Met | Pro | Phe | Glu | Val | Ala |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Phe | Lys | Cys | Gln | Thr | Gly | Val | Ile | Asn | Ser | Thr | Ala | Ser | Ser | Gly | Thr |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |
| Ala | Leu | Gly | Ile | Arg | Ala | Ser | Ala | Gly | Ala | Gln | Ala | Ala | Ser | Ala | Ala |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |
| Leu | Gly | Leu | Arg | Asn | Ala | Asn | Gly | Gly | Leu | Ser | Tyr | Leu | Val | Ser | Asp |  |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |     |  |
| Arg | Tyr | Gly | Gln | Pro | Gly | Met | Ala | Gln | Gly | Val | Gly | Ile | Arg | Leu | Leu |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Arg | Asp | Gly | Ser | Ala | Met | Asn | Leu | Leu | Val | Ser | Glu | Asp | Ser | Ala | Met |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Gly | Ser | Asn | Ala | Glu | Thr | Arg | Gly | Trp | Tyr | Pro | Val | Ile | Gly | Asn | Ala |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Ser | Asn | Lys | Thr | Gly | Glu | Ala | Gly | Gly | Ile | Ser | Gln | Tyr | Ser | Glu | Thr |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |
| Phe | Arg | Ala | Arg | Leu | Glu | Lys | Leu | Thr | Val | Gly | Ser | Met | Pro | Ser | Val |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Thr | Pro | Gly | Arg | Val | Glu | Ala | Ser | Ala | Gln | Val | Val | Ile | Arg | Val | Gln |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |

<210> 145  
 <211> 870  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 145  
 Met Phe Cys His Val Glu Ala Arg Arg Thr Gly Lys Leu Pro Leu Ala  
 1 5 10 15  
 Leu Gly Gly Leu Ala Leu Ala Phe Ala Gly Leu Ala Asn Gly Glu Ala  
 20 25 30  
 Gln Tyr Arg Phe Asp Asp Ser Leu Leu Met Gly Ser Gly Leu Ala Gly  
 35 40 45  
 Gly Thr Leu Glu Arg Phe Asn Arg Ala Asn Gln Val Asp Pro Gly Thr  
 50 55 60  
 Tyr His Val Asp Val Tyr Leu Asn Gly Ser Tyr Ala Ser Arg Thr Arg  
 65 70 75 80  
 Ile Glu Phe Arg Pro Arg Ala Gly Gly Val Lys Pro Cys Phe Gly Glu  
 85 90 95  
 Arg Phe Leu Arg Arg Thr Leu Gly Val Arg Pro Ala Ser Glu Ala Gly  
 100 105 110  
 Val Gln Ala Pro Gly Asp Cys Leu Gly Leu Glu Glu Arg Leu Pro Gly  
 115 120 125  
 Ser Thr Phe Asn Leu Asp Thr Ala Leu Leu Arg Leu Asp Leu Ser Val  
 130 135 140  
 Pro Gln Ala Leu Leu Asp Ile Lys Pro Arg Gly Tyr Val Gly Pro Asp  
 145 150 155 160  
 Glu Trp Asp Ala Gly Ser Ser Met Gly Phe Val Asn Tyr Asp Ala Ser  
 165 170 175  
 Phe Tyr Arg Ser Ser Phe Asp Gly Val Gly Gly Asn Gly Asp Ser Asp  
 180 185 190  
 Tyr Gly Tyr Leu Gly Leu Ser Gly Gly Ile Asn Phe Gly Leu Trp Arg  
 195 200 205  
 Leu Arg His Gln Ser Asn Tyr Ser Tyr Ser Ser Tyr Ala Gly Asn Thr  
 210 215 220  
 Arg Ser Asp Trp Asn Ser Ile Arg Thr Tyr Ala Gln Arg Ala Val Pro  
 225 230 235 240  
 Gly Leu Arg Ser Glu Leu Thr Leu Gly Glu Ser Phe Thr Glu Gly Asn  
 245 250 255  
 Leu Phe Gly Ser Leu Gly Tyr Arg Gly Val Arg Leu Ala Ser Asp Asp  
 260 265 270  
 Arg Met Leu Ala Asp Ser Gln Arg Arg Tyr Ala Pro Gln Val Arg Gly  
 275 280 285  
 Thr Ala Asn Ser Asn Ala Arg Val Val Ile Ser Gln Asn Gly Lys Lys  
 290 295 300  
 Val His Glu Ser Ala Val Ala Pro Gly Pro Phe Val Ile Asn Asp Leu  
 305 310 315 320  
 Tyr Gly Thr Ala Tyr Asp Gly Asp Leu Asp Val Gln Val Ile Glu Ala  
 325 330 335  
 Asp Gly Ser Val Ser Arg Phe Ser Val Pro Phe Ser Ala Val Pro Glu  
 340 345 350  
 Ser Met Arg Pro Gly Ile Ser Arg Tyr Ser Ala Thr Leu Gly Gln Ala  
 355 360 365  
 Arg Gln Tyr Gly Asp Gly Asn Asp Leu Phe Gly Asp Phe Thr Tyr Gln  
 370 375 380  
 Arg Gly Leu Thr Asn Ser Leu Thr Ala Asn Leu Gly Ser Arg Leu Ala  
 385 390 395 400  
 Glu Asp Tyr Leu Ala Leu Leu Gly Gly Gly Val Leu Ala Thr Pro Tyr  
 405 410 415

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Gly | Ala | Phe | Gly | Phe | Asn | Ser | Ile | Phe | Ser | His | Ala | Thr | Val | Glu | Asn |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Gly | Gln | Arg | Lys | Gln | Gly | Trp | Arg | Val | Gly | Leu | Asn | Tyr | Ser | Arg | Thr |  |  |
|     |     | 435 |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |  |  |
| Phe | Gln | Pro | Thr | Gln | Thr | Thr | Leu | Thr | Leu | Ala | Gly | Tyr | Arg | Tyr | Ser |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Thr | Glu | Gly | Tyr | Arg | Asp | Leu | Gly | Asp | Ala | Leu | Ser | Ala | Arg | His | Ala |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Asp | Glu | His | Asn | Asp | Ser | Trp | Asn | Ser | Ser | Ser | Tyr | Lys | Gln | Arg | Asn |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |  |  |
| Gln | Phe | Thr | Leu | Leu | Val | Asn | Gln | Gly | Leu | Gly | Gly | Tyr | Gly | Asn | Leu |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Tyr | Leu | Ser | Gly | Ala | Thr | Ser | Asp | Tyr | Tyr | Asp | Gly | Lys | Ser | Arg | Asp |  |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Thr | Gln | Leu | Gln | Phe | Gly | Tyr | Ser | Asn | Thr | Trp | Arg | Gln | Leu | Ser | Tyr |  |  |
|     | 530 |     |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |  |  |
| Asn | Leu | Ala | Tyr | Ser | Arg | Gln | Gln | Thr | Thr | Trp | Tyr | Arg | Asp | Leu | Asn |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Asp | Asp | Tyr | Asp | Pro | Ser | Leu | Pro | Pro | Gln | Tyr | Asn | Leu | Arg | His | Gly |  |  |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |  |  |
| Ser | Glu | Arg | Ser | Asn | Thr | Leu | Thr | Leu | Thr | Leu | Ser | Met | Pro | Leu | Gly |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Ser | Ser | Ser | Gln | Ala | Pro | Asn | Leu | Ser | Ala | Met | Ala | Ser | Arg | Arg | Ser |  |  |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |
| Gly | Asp | Ser | Arg | Gly | Ser | Ser | Tyr | Gln | Thr | Gly | Leu | Asn | Gly | Thr | Leu |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Asp | Glu | Asp | Arg | Ser | Leu | Ser | Tyr | Ala | Ile | Ala | Ala | Gly | Arg | Asp | Ser |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |
| Asp | Asn | His | Gly | Ser | Asp | Phe | Asn | Gly | Ser | Leu | Gln | Lys | Gln | Thr | Ser |  |  |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |  |  |
| Val | Ala | Thr | Leu | Asn | Ala | Gly | Tyr | Ala | Glu | Asn | Ser | Ser | Tyr | Arg | Gln |  |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |
| Leu | Asn | Thr | Gly | Leu | Arg | Gly | Ala | Ala | Val | Leu | His | Arg | Gly | Gly | Leu |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |
| Thr | Leu | Gly | Pro | Tyr | Val | Gly | Asp | Thr | Phe | Ala | Leu | Val | Glu | Ala | Lys |  |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |
| Gly | Ala | Ser | Gly | Ala | Gly | Val | Arg | Gly | Gly | Gln | Gly | Ala | Arg | Val | Asn |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |
| Gly | Asn | Gly | Tyr | Ala | Val | Val | Pro | Ser | Leu | Ser | Pro | Tyr | Arg | Tyr | Asn |  |  |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |  |  |
| Pro | Val | Ser | Leu | Asp | Pro | Gln | Gly | Met | Gly | Glu | Glu | Ala | Glu | Leu | Leu |  |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |  |
| Glu | Thr | Glu | Arg | Lys | Ile | Ala | Pro | Tyr | Ala | Gly | Ala | Ala | Val | His | Val |  |  |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |  |
| Lys | Phe | Arg | Thr | Leu | Thr | Gly | His | Pro | Leu | Leu | Ile | Gln | Ala | Gln | Leu |  |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |  |
| Ala | Asp | Gly | Ser | Ala | Leu | Pro | Leu | Gly | Ala | Asn | Val | Leu | Asp | Ser | Gln |  |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |  |
| Gly | Val | Asn | Ile | Gly | Met | Val | Gly | Gln | Gly | Gln | Val | Tyr | Ala | Arg |     |  |  |
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     | 815 |     |     |  |  |
| Ala | Glu | Gly | Asp | Lys | Gly | Arg | Leu | Arg | Val | Gln | Trp | Ser | Glu | Arg | Pro |  |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |  |
| Gly | Asp | Ala | Cys | Leu | Leu | Asp | Tyr | Asp | Leu | Asp | Thr | Gly | Pro | Arg | Gln |  |  |
|     | 835 |     |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |  |  |
| Ala | Ile | Glu | Pro | Gly | Gln | Ala | Val | Ile | Arg | Leu | Gln | Gly | Thr | Cys | Thr |  |  |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |  |  |
| Pro | Val | Ser | Glu | Ala | Pro |     |     |     |     |     |     |     |     |     |     |  |  |
| 865 |     |     |     |     | 870 |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 146  
 <211> 248  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 146  
 Met Asn Thr Phe Pro Leu Pro Pro Leu Arg Ala Ala Thr Leu Ala Leu  
 1 5 10 15  
 Ala Leu Leu Ile Pro Ala Ile Pro Ala Gln Ser Ser Val Val Ile Ile  
 20 25 30  
 Gly Thr Arg Val Ile Tyr Pro Gly Asp Ala Arg Glu Lys Thr Val Gln  
 35 40 45  
 Met Ile Asn Gln Asp Ala Phe Pro Asn Val Ile Gln Ala Trp Ile Asp  
 50 55 60  
 Asn Asp Asp Pro Ser Ser Thr Pro Glu Thr Ala Asn Ala Pro Phe Leu  
 65 70 75 80  
 Val Ser Pro Ala Val Thr Arg Ile Ala Pro Gly Ser Gly Gln Thr Leu  
 85 90 95  
 Arg Leu Leu Tyr Thr Gly Leu Pro Leu Pro Glu Asp Arg Glu Ser Leu  
 100 105 110  
 Phe His Leu Asn Val Leu Gln Ile Pro Pro Arg Asp Leu Ala Lys Ala  
 115 120 125  
 Glu Arg Asn Gln Met Leu Leu Met Gln Arg Ser Arg Leu Lys Leu Phe  
 130 135 140  
 Tyr Arg Pro Ala Ala Leu Leu Gly Gly Ser Glu Gln Leu Val Glu Gln  
 145 150 155 160  
 Leu His Phe Ser Leu Val Gln Ala Ser Gly Asn Trp Arg Val Arg Val  
 165 170 175  
 Asp Asn Pro Ser Gly Tyr Tyr Ala Ser Phe Ala Gly Ala Met Leu Ser  
 180 185 190  
 Ile Gly Glu Arg Arg Trp Arg Leu Leu Ser Ser Met Val Pro Pro Lys  
 195 200 205  
 Gly Gln Ala Glu Trp Ala Ala Glu Arg Pro Ser Pro Leu Ala Pro Gly  
 210 215 220  
 Pro Val Gln Leu Asn Ala Leu Leu Ile Asn Asp Tyr Gly Ala Arg Met  
 225 230 235 240  
 Glu Val Gln His Val Leu Pro Arg  
 245

<210> 147  
 <211> 182  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 147  
 Met Lys Pro Gln Ser Thr Ala Leu Thr Ile Ala Ala Phe Leu Ala Leu  
 1 5 10 15  
 Pro Gly Ile Ala Ala Ala Asn Thr Ile Thr Phe His Gly Glu Val  
 20 25 30  
 Thr Asp Gln Thr Cys Ser Ala Val Val Asp Gly Arg Thr Asp Pro Thr  
 35 40 45  
 Val Ile Leu Asp Thr Val Pro Val Ser Ala Leu Asp Gly Ala Val Gly  
 50 55 60  
 Lys Pro Ala Gly Glu Thr Ser Phe Thr Leu Gln Leu Thr Gly Cys Ala  
 65 70 75 80  
 Ala Pro Ala Ala Asp Ala Glu Glu His Phe Ser Val Met Phe Gln Ala  
 85 90 95  
 Val Asn Pro Thr Ser Ala Gly Asn Leu Thr Asn Thr Ala Ser Ala Gly



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |  |
| Ala | Thr | Gly | Val | Ala | Leu | Gln | Leu | Leu | Thr | Ala | Pro | Gly | Gly | Ser | Glu |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Val | Asn | Leu | Ala | Gly | Gly | Ser | Ala | Val | Ala | Ala | Gly | Asp | Ile | Val | Leu |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Ala | Gly | Gly | Glu | Thr | Ser | Thr | Ser | Tyr | Asp | Tyr | Ala | Val | Arg | Tyr | Ile |  |  |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |  |  |
| Ser | Glu | Ala | Thr | Thr | Val | Thr | Pro | Gly | Pro | Val | Leu | Gly | Ser | Val | Thr |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Tyr | Thr | Leu | Arg | Tyr | Glu |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 180 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 148  
 <211> 248  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| <400> 148 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Met       | Ala | Glu | Val | Thr | Gln | Arg | Ala | Glu | Gln | Gln | Gln | Glu | Ser | Gln | Lys |  |  |
| 1         |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Thr       | Leu | Leu | Gly | Thr | Ile | Ile | Ser | Thr | Pro | Phe | Gln | Phe | Leu | Gly | Val |  |  |
|           |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |  |  |
| Met       | Phe | Gly | Ser | Leu | Ile | Gly | Ala | Ile | Ile | Val | Glu | Trp | Val | Cys | Leu |  |  |
|           | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Tyr       | Phe | Phe | Trp | Pro | Asp | Ala | Gly | Trp | Lys | His | Ala | Gln | Ala | Met | Phe |  |  |
|           | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Glu       | Tyr | Glu | Leu | Ser | Trp | Leu | Ser | Gln | Gly | Leu | Leu | His | Ser | Val | Val |  |  |
| 65        |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |  |  |
| Val       | Gln | Glu | Pro | Gly | Arg | Thr | Ala | Thr | Trp | Leu | Ala | Gln | Leu | Ala | Tyr |  |  |
|           |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Asp       | Trp | Leu | Phe | Val | Lys | Thr | Gly | Met | Val | Asp | Trp | Met | Thr | Asn | Met |  |  |
|           |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |  |  |
| Thr       | Thr | Ile | Ala | Gln | Ala | Gly | Pro | Arg | Ser | Pro | Leu | Asp | Val | Arg | Tyr |  |  |
|           | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Leu       | Thr | Ala | Gln | Gly | Val | Ser | Thr | Leu | Gln | Asn | Tyr | Gly | Leu | Ala | Ala |  |  |
|           | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Leu       | Tyr | Thr | Val | Leu | Thr | Phe | Val | Val | Arg | Leu | Val | Ile | Leu | Val | Met |  |  |
| 145       |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     | 160 |  |  |
| Thr       | Ile | Pro | Leu | Phe | Val | Met | Ala | Ala | Phe | Thr | Gly | Leu | Val | Asp | Gly |  |  |
|           |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Leu       | Val | Arg | Arg | Asp | Leu | Arg | Lys | Phe | Gly | Ala | Gly | Arg | Glu | Ser | Ser |  |  |
|           |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Tyr       | Leu | Tyr | His | Lys | Ala | Arg | Gly | Ser | Ile | Ile | Pro | Leu | Ala | Val | Val |  |  |
|           | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |
| Pro       | Trp | Thr | Leu | Tyr | Leu | Ala | Ile | Pro | Ile | Asn | Ile | Asn | Pro | Leu | Leu |  |  |
|           | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Ile       | Leu | Leu | Pro | Cys | Ala | Ala | Leu | Leu | Gly | Val | Ala | Val | Cys | Ile | Thr |  |  |
| 225       |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     | 240 |  |  |
| Ala       | Ser | Thr | Phe | Lys | Lys | Tyr | Leu |     |     |     |     |     |     |     |     |  |  |
|           |     |     | 245 |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 149  
 <211> 744  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 149

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Gly | Gln | Tyr | Pro | Leu | Glu | Ala | Leu | Leu | Arg | Pro | Ala | Val | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Tyr | Thr | Thr | Thr | Val | Cys | Phe | Thr | Ala | Ala | Ala | Leu | Cys | Ile | Val |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Pro | Trp | Thr | Phe | Ser | Leu | Thr | Pro | Leu | Phe | Gly | Ile | Val | Ala | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Cys | Phe | Ala | Trp | Leu | Gly | Ile | Val | Arg | Leu | Lys | Gln | Ala | Gly | Val |
| 50  |     |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Leu | Arg | Tyr | Arg | Arg | Asn | Ile | Arg | Arg | Leu | Pro | Lys | Tyr | Thr | Met |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Ser | Ala | Glu | Met | Pro | Val | Ser | Asn | Glu | His | Leu | Phe | Ile | Gly | Lys |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Phe | Arg | Trp | Thr | Gln | Lys | His | Thr | Gln | Arg | Leu | Ala | Asp | Thr | Tyr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Pro | Gln | Phe | Ala | Ser | Tyr | Val | Glu | Pro | Ser | Pro | Leu | Tyr | Glu | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Arg | Arg | Leu | Glu | Lys | Gln | Leu | Glu | Phe | Ala | Pro | Phe | Pro | Leu | Lys |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Val | Ala | Lys | Ala | Thr | Ala | Trp | Asp | Val | Ala | Trp | Asn | Pro | Ala | Arg |
| 145 |     |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |
| Pro | Leu | Pro | Pro | Val | Gly | Gly | Leu | Pro | Arg | Leu | His | Gly | Ile | Glu | Pro |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Arg | Glu | Gln | Asp | Val | Gly | Leu | Gln | Leu | Gly | Glu | Arg | Val | Gly | His | Thr |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Val | Leu | Gly | Thr | Thr | Arg | Val | Gly | Lys | Thr | Arg | Leu | Ala | Glu | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Phe | Ile | Thr | Gln | Asp | Ile | Arg | Arg | Thr | His | Cys | Arg | Val | Arg | Arg | Arg |
|     |     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |
| Arg | Val | Lys | Met | Gly | Arg | Arg | Thr | Gln | Thr | Val | His | His | Gly | Tyr | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Arg | Arg | Arg | Ala | Glu | Gln | Pro | Asp | Tyr | Glu | Val | Val | Ile | Val | Phe |     |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |     |     |
| Asp | Pro | Lys | Gly | Asp | Ala | Asp | Leu | Leu | Lys | Arg | Met | Tyr | Val | Glu | Cys |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Glu | Arg | Ala | Gly | Arg | Leu | Asp | Glu | Phe | Tyr | Val | Phe | His | Leu | Gly | His |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Pro | Asp | Leu | Ser | Ala | Arg | Tyr | Asn | Ala | Val | Gly | Arg | Phe | Gly | Arg | Ile |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Glu | Val | Ala | Thr | Arg | Val | Ala | Gly | Gln | Leu | Ser | Gly | Glu | Gly | Asn |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ser | Ala | Ala | Phe | Arg | Glu | Phe | Ala | Trp | Arg | Phe | Val | Asn | Ile | Ile | Ala |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Arg | Ala | Leu | His | Ala | Leu | Gly | Ile | Arg | Pro | Asp | Tyr | Gln | Gln | Ile | Leu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Arg | His | Val | Val | Asn | Ile | Asp | Ala | Leu | Phe | Val | Glu | Tyr | Ala | Gln | Lys |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Tyr | Ile | Ser | Glu | His | Asp | Pro | Arg | Ala | Trp | Asp | Thr | Ile | Ile | Gln | Ile |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Glu | Gly | Lys | Leu | Asn | Asp | Lys | Asn | Ile | Pro | Phe | Asn | Met | Lys | Gly | Arg |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Pro | Leu | Arg | Val | Val | Ala | Ile | Asp | Gln | Tyr | Leu | Thr | Gln | Lys | Arg | Ile |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Ala | Asp | Pro | Val | Met | Glu | Gly | Leu | Lys | Ser | Ala | Val | Arg | Tyr | Asp | Lys |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Thr | Tyr | Phe | Asp | Lys | Ile | Val | Ala | Ser | Leu | Leu | Pro | Leu | Leu | Glu | Lys |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Leu | Thr | Thr | Gly | Arg | Ile | Ser | Glu | Leu | Leu | Ser | Pro | Asn | Tyr | Ala | Asp |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Leu | Asn | Asp | Pro | Arg | Pro | Ile | Phe | Asp | Trp | Met | Gln | Val | Ile | Arg | Lys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     | 480 |
| Arg | Ala | Val | Val | Tyr | Val | Gly | Leu | Asp | Ala | Leu | Ser | Asp | Thr |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     | 495 |
| Ala | Ala | Ala | Val | Gly | Asn | Ser | Met | Phe | Ser | Asp | Leu | Val | Ser |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     | 510 |     |
| Gly | His | Ile | Tyr | Lys | His | Gly | Val | Asp | Asp | Gly | Leu | Pro | Gly |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |
| Ala | Ser | Gly | Lys | Val | Arg | Ile | Asn | Leu | His | Ala | Asp | Glu | Phe |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |
| Leu | Ile | Gly | Asp | Glu | Phe | Ile | Pro | Met | Val | Asn | Lys | Ala | Gly |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     | 560 |
| Gly | Val | Gln | Val | Thr | Ala | Tyr | Thr | Gln | Thr | Met | Ser | Asp | Ile |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     | 575 |
| Lys | Ile | Gly | Ser | Arg | Ala | Lys | Ala | Gly | Gln | Ile | Ile | Gly | Asn |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |
| Asn | Leu | Phe | Met | Leu | Arg | Val | Arg | Glu | Thr | Ala | Thr | Ala | Glu |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |
| Thr | Asn | Gln | Leu | Pro | Lys | Val | Gln | Ile | Tyr | Thr | Ser | Thr | Pro |
|     | 610 |     |     |     |     | 615 |     |     |     |     |     | 620 |     |
| Gly | Ala | Asn | Asp | Ala | Ile | Asn | Asn | Asn | Lys | Lys | Val | Ala | Phe |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     | 640 |
| Ser | Ser | His | Asp | Gln | Val | Gln | Met | Thr | Ser | Val | Pro | Met | Leu |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     | 655 |
| Ala | His | Ile | Ile | Gly | Leu | Pro | Lys | Gly | Gln | Ala | Phe | Ala | Leu |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |
| Gly | Gly | Asn | Leu | Trp | Lys | Ile | Arg | Met | Pro | Leu | Pro | Ala | Val |
|     |     | 675 |     |     |     | 680 |     |     |     |     |     | 685 |     |
| Asp | Glu | Val | Met | Pro | Lys | Ser | Leu | Gln | Glu | Leu | Ala | Ala | Gly |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |
| Lys | Gly | Gln | Ala | Ala | Asn | Ser | Glu | Trp | Trp | Glu | Ala | Pro | Gly |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     | 720 |
| Ala | Leu | Gln | Asp | Gly | Leu | Pro | Gln | Asp | Leu | Val | Asp | Asp | Phe |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     | 735 |
| Leu | Gly | Thr | Gly | Glu | Asp | Ala | Ala |     |     |     |     |     |     |
|     |     |     | 740 |     |     |     |     |     |     |     |     |     |     |

<210> 150  
 <211> 85  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 150 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Met       | Thr | Thr | His | Leu | Ile | Thr | Leu | Val | Ile | Lys | Gln | Pro | Ser |
| 1         |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |
| Gln       | Ala | Arg | Gln | Leu | Met | Tyr | Gln | Glu | Leu | Leu | Gly | Leu | Ile |
|           |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |
| Tyr       | Gly | Gly | Glu | Val | Thr | Ser | Lys | Ala | Leu | Glu | Asp | Glu | Ser |
|           |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |
| Cys       | Glu | Leu | Leu | Val | Gln | Met | Leu | Pro | Asp | His | Glu | Val | Glu |
|           | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |
| Arg       | Lys | Gln | Val | Leu | Glu | Leu | His | Ala | Lys | Gly | Arg | Leu | Gln |
| 65        |     |     |     |     | 70  |     |     |     |     | 75  |     |     | 80  |
| Ala       | Ser | Leu | Lys | Val |     |     |     |     |     |     |     |     |     |
|           |     |     |     | 85  |     |     |     |     |     |     |     |     |     |

<210> 151  
 <211> 166

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 151

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Lys | Phe | Leu | Ala | Thr | Leu | Ala | Phe | Cys | Thr | Ala | Phe | Ala | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Ala | Trp | Ala | Ala | Gly | Leu | Ile | Val | Val | Glu | Asp | Leu | Gly | Gly | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Ala | Leu | Pro | Tyr | Tyr | Gln | Gly | Leu | Asp | Pro | Gln | Pro | Ser | Ala | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Pro | Gly | Pro | Gly | Asp | Leu | Gly | Val | Arg | Gly | Ser | Gly | Ala | Phe | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Val | Arg | Ser | Ala | Arg | Leu | Ser | Pro | Gly | Arg | Val | Gln | Gly | Arg | Ala | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asn | Ala | Pro | Gly | Leu | Gln | Leu | Leu | Phe | Leu | Val | Gly | Asp | Asp | Thr | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Arg | Thr | Trp | Leu | Lys | Glu | Arg | Gly | Asp | Glu | Leu | Arg | Asp | Leu | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Val | Gly | Leu | Ala | Val | Asn | Val | Ala | Ser | Glu | Ala | Arg | Leu | Thr | Glu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Arg | Ala | Trp | Gly | Lys | Gly | Leu | Gln | Ile | Leu | Pro | Ala | Pro | Ala | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Leu | Val | Asp | Arg | Leu | Gly | Leu | Gln | His | Tyr | Pro | Ala | Leu | Ile | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ser | Thr | Ala | Ile | Gln | Gln |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 165 |     |     |     |     |     |     |     |     |     |     |     |

<210> 152

<211> 193

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 152

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Thr | Ser | Val | Val | Arg | Ala | Leu | Gln | Leu | Ala | Thr | Leu | Leu | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Val | Asn | Ile | Ala | Gln | Ala | Ala | Val | Asp | Pro | Pro | Pro | Ala | Tyr | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Ile | Ala | Leu | Pro | Lys | Gly | Val | Pro | Ala | Glu | Val | Leu | Tyr | Ser | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Leu | Thr | Glu | Ser | Lys | Val | Leu | Leu | Arg | Gly | Glu | Tyr | Val | Pro | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Pro | Trp | Thr | Leu | Asn | Val | Ala | Gly | Lys | Ser | Tyr | Tyr | Tyr | Ala | Thr | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Ala | Ala | Cys | Thr | Ala | Leu | Leu | Ala | Ala | Ile | Asn | Leu | Tyr | Gly | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Ser | Val | Asp | Ser | Gly | Leu | Gly | Gln | Val | Asn | Ile | Gly | Trp | Asn | Gly |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| His | Arg | Phe | Ser | Ser | Pro | Cys | Glu | Ser | Leu | Asp | Pro | Tyr | Lys | Asn | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Ala | Thr | Ser | Asp | Ile | Leu | Ile | Glu | Gln | Arg | Asp | Ala | Leu | Tyr | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Ala | Pro | Gly | Arg | Pro | Val | Asp | Trp | Ile | Gln | Val | Ala | Gly | Arg | Tyr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| His | Arg | Pro | Ala | Gly | Gly | Ala | Pro | Ala | Ala | Lys | Tyr | Arg | Arg | Thr | Val |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ser | Arg | His | Leu | Ser | Gln | Val | Leu | Gly | Val | Asn | Leu | Leu | Val | Thr | Asn |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |

Pro

<210> 153  
 <211> 251  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 153  
 Met Ile Arg Thr Val Ser Leu Leu Ser Gly Leu Met Leu Leu Leu Ser  
 1 5 10 15  
 Tyr Pro Ala Ala Gly Gln Glu Ala Ala Ser Arg Glu Ala Ser Ser  
 20 25 30  
 Gln Leu Ser Gly Ser Gln Leu Gly Thr Leu Lys Gln Gln Thr Ser Gln  
 35 40 45  
 Ser Asp Leu Ala Gln Glu Trp Gly Leu Asn Gln Gln Glu Trp Thr Arg  
 50 55 60  
 Tyr Gln Thr Leu Met Gln Gly Pro Arg Gly Ala Tyr Ser Pro Gly Ile  
 65 70 75 80  
 Asp Pro Leu Thr Ala Leu Gly Ile Glu Ala Arg Ser Ala Glu Glu Arg  
 85 90 95  
 Arg Arg Tyr Ala Asp Leu Gln Val Gln Ala Glu Arg Arg Arg Val Glu  
 100 105 110  
 Lys Glu Leu Ala Tyr Gln Arg Ala Tyr Asp Glu Ala Phe Ala Arg Ala  
 115 120 125  
 Tyr Pro Gly Glu Gly Val Ile Arg Leu Thr Glu Ser Ser Thr Ala Asn  
 130 135 140  
 Pro Ser Gly Thr Pro Asn Met Ser Pro Ala Leu Gln Ser Ser Gly Arg  
 145 150 155 160  
 Leu Ala Leu Phe Val Gln Asp Asn Cys Thr Ala Cys Ile Gln Arg Val  
 165 170 175  
 Arg Asp Leu Gln His Ala Glu Lys Glu Phe Asp Leu Tyr Phe Val Gly  
 180 185 190  
 Ser Gln Asn Asp Ala Glu Arg Val Arg Arg Trp Ala Ile Leu Ala Gly  
 195 200 205  
 Ile Asp Pro Lys Lys Val Arg Ser Lys Gln Ile Thr Leu Asn His Asp  
 210 215 220  
 Glu Gly Arg Trp Met Ala Leu Gly Leu Gly Gly Ala Leu Pro Ala Leu  
 225 230 235 240  
 Val Gln Glu Val Asn Gly Arg Trp Gln Arg Leu  
 245 250

<210> 154  
 <211> 229  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 154  
 Met Lys Arg Pro Ser Pro Ala Ser Met Ile Leu Gly Leu Cys Leu Thr  
 1 5 10 15  
 Ala Met Ala Gly Leu Leu Ser Tyr Gln Gln Tyr Gln Leu Val Gln Leu  
 20 25 30  
 Arg Ser Gly Val Asp Ser Ala Ala Glu Lys Ala Ser Leu Glu Ala Ile  
 35 40 45  
 Leu Ala Arg Leu Ser Arg Val Asp Glu Arg Leu Asp Ala Val Asp Gly  
 50 55 60  
 Gln His Leu Val Ser Asn Glu Asp Phe Arg Ser Gly Gln Gln Ala Leu  
 65 70 75 80

Ser Asn Arg Ile Asp Ala Ala Gln Ala Phe Ala Lys Gln Ala Ser Asp  
                     85                    90                    95  
 Ala Val Glu Asn Leu Ala Gln Thr Thr Ala Ser Ala Gly Asp Leu Leu  
                     100                    105                    110  
 Val Leu Lys Ala Thr Val Glu Thr Leu Asp Gly Ser Val Arg Thr Leu  
                     115                    120                    125  
 Gln Glu Lys Gln Ala Lys Ala Pro Pro Leu Ile Val Pro Ala Pro Lys  
                     130                    135                    140  
 Arg Pro Ile Pro Ala Lys Pro Lys Pro Lys Pro Lys Pro Met Glu Pro  
 145                    150                    155                    160  
 Pro Pro Phe Ser Ile Leu Gly Val Glu Tyr Arg Gly Gly Glu Arg Phe  
                     165                    170                    175  
 Leu Ser Val Ala Pro Pro Gly Ser Thr Gln Leu Ser Gln Ile Tyr Leu  
                     180                    185                    190  
 Ile Arg Arg Gly Asp Ala Val Ala Gly Thr Thr Trp Arg Leu Thr Asp  
                     195                    200                    205  
 Leu Asp Asp Gly Thr Ala His Phe Asp Val Ala Gly Thr Ser Arg Ser  
                     210                    215                    220  
 Val Arg Ile Gln Pro  
 225

<210> 155  
 <211> 343  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 155  
 Met Ala Glu Ala Ile Arg Lys Asp Ala Met Met Thr Lys Leu Tyr Phe  
 1                    5                    10                    15  
 Asp Leu Leu Asn Ser Pro Ala Glu Ala His Ser Ser Ile Gln Lys Ser  
                     20                    25                    30  
 Leu Ser Val Gln Ala Ile Ser Thr Thr Val Pro Ile Leu Glu Phe Pro  
                     35                    40                    45  
 Ser Glu Thr Val Tyr Ala Tyr Ala Ser Tyr Ile Asn Ala Leu Ser Ile  
                     50                    55                    60  
 Gly Gln Arg Ile Asp Pro Ala Phe Thr Gln Ser Leu Thr Ser Ala Ile  
 65                    70                    75                    80  
 Ser Asn Leu Ala Gly Arg Pro Ile Ala Val Ser Asp Ile Tyr Gln Lys  
                     85                    90                    95  
 Ile His Glu Thr Thr Leu Arg Thr Pro Val Glu Met Gly Val Arg Pro  
                     100                    105                    110  
 Asn Ser Ile Thr Phe Glu Glu Tyr Gln Ala Thr Ile Asn Gln Gln Ala  
                     115                    120                    125  
 Ile Asn Met Val Gln Asp Met Gln Asp Gly Asp Lys Gly Glu Lys Val  
                     130                    135                    140  
 Glu Ala Leu Gln Ala Asn Met Gln Phe Leu Tyr Gly Gln Glu Ile Asn  
 145                    150                    155                    160  
 Thr Asp Phe Ile Ala Arg Asn Glu Leu Ala Ala Gly Gln Arg Ala Lys  
                     165                    170                    175  
 Thr Val Ala Ile Val Gln Gly His Ile Thr Ile Gly Tyr Gly Phe Asp  
                     180                    185                    190  
 Thr Phe Val His Glu Ala Ser Glu Leu Asn Ser Leu Asn Leu Val Gly  
                     195                    200                    205  
 Ser Thr Arg Gln Lys Val Leu Pro Ala Leu Gln Leu Ser Thr Ser Asp  
                     210                    215                    220  
 Pro Gly Phe Trp Ser Val Tyr Ala Leu Leu Gly Gln Ser Leu Thr Asp  
 225                    230                    235                    240  
 Asp Asp Gly Leu Leu Leu Phe Ser Ala Lys Ala Arg Ala Val Val Gln

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| Arg | Ile | Ala | Ser | Asn | Gln | Phe | Ala | Gly | Lys | Trp | Asn | Gly | Leu | Pro | Pro |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Ala | Ile | Lys | Thr | Val | Ala | Leu | Asp | Leu | Tyr | Tyr | Gln | Tyr | Gly | Gln | Thr |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| Gly | Asn | Phe | Pro | Lys | Phe | Gln | Gln | Ala | Ile | Asn | Ser | His | Asp | Trp | Pro |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Ala | Val | Ile | His | Glu | Leu | Arg | Asn | Trp | Asn | Gly | Val | Pro | Asn | Asp | Pro |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |
| Leu | Gln | Phe | Ile | Thr | Lys | Arg | Leu | Glu | Glu | Arg | Ala | Lys | Tyr | Leu | Ala |  |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |  |
| Ile | Ser | Phe | Asn | Tyr | Glu | Gln |     |     |     |     |     |     |     |     |     |  |
|     |     |     | 340 |     |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 156  
 <211> 221  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 156 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Met       | Asn | Asn | Thr | Val | Ser | Glu | Thr | Gln | Gln | Ile | Asn | Ile | Tyr | Gln | Asn |  |
| 1         |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |
| Pro       | Gly | Gln | Ser | Ile | Ser | Gly | Leu | Tyr | Lys | Gly | Leu | Ala | Asn | Gln | Cys |  |
|           |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Ser       | Pro | Gly | Gln | Pro | Phe | Pro | Glu | Val | Gln | Leu | Val | Glu | Ala | Trp | Asp |  |
|           |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Ile       | Pro | Leu | Val | Leu | His | Pro | Glu | Phe | Val | Pro | Asn | Gly | Asp | Val | Ser |  |
|           | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Lys       | Ile | Asp | Lys | Glu | Tyr | Gly | Thr | Ile | Leu | Ala | Ala | Glu | Ser | Ala | Gln |  |
| 65        |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |
| Val       | Ile | Leu | Leu | Gln | Leu | Gln | Met | Ala | Gln | Asp | Lys | Ala | Lys | Ala | Cys |  |
|           |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |
| Gly       | Glu | Val | Thr | Ala | Leu | Ile | Ser | Ser | Val | Ser | Ser | Asn | Leu | Asn | Thr |  |
|           |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Ile       | Lys | Ser | Arg | His | Gly | Ala | Asn | Tyr | Leu | Asn | Leu | Leu | Lys | Gln | Ser |  |
|           |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Pro       | Asn | Arg | Tyr | Pro | Thr | Ser | Val | Gly | Val | Glu | Ile | Met | Ser | Gly | Gly |  |
|           | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Ser       | Pro | Asn | Gln | Asp | Ser | Gly | Ile | Glu | Val | Ser | Tyr | Gly | Ala | Ser | Leu |  |
| 145       |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Gly       | Arg | Leu | Thr | Gln | Ser | Gln | Leu | Gln | Ala | Met | Asn | Leu | Pro | Ala | Ser |  |
|           |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |
| Leu       | Lys | Gln | Leu | Leu | Thr | Gln | Gly | Ile | Gly | Val | Lys | Leu | Ser | Gln | Pro |  |
|           |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Glu       | Tyr | Trp | Pro | Ala | Tyr | Asn | Asn | Ile | Ala | Thr | Gly | Ile | Arg | Tyr | Thr |  |
|           |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |
| Thr       | Gly | Val | Ala | Ile | Thr | Leu | Ala | Tyr | Trp | Ala | Thr | Val |     |     |     |  |
|           | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |  |

<210> 157  
 <211> 224  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 157 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Met       | Thr | Gln | Ala | Ala | Lys | Ile | Pro | Ala | Asn | Glu | Tyr | Ser | Leu | Gly | Asp |  |
| 1         |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Gly | Arg | Gly | Tyr | Ile | Asn | Ile | Trp | Pro | Glu | Lys | Asp | Glu | Ala | Gln | Ala |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Phe | Leu | Ile | His | Asn | Asp | Gly | Pro | Asn | Gly | Ala | Thr | Cys | Ser | Leu | Lys |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Gly | Thr | Leu | Arg | Asp | Asn | Lys | Gly | Val | Val | His | Ser | Pro | Tyr | Ser | Ser |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ala | Ser | Cys | Leu | Leu | Ser | Ile | Thr | Gln | Thr | Gly | Leu | Leu | Ser | Val | Ser |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Val | Lys | Arg | Glu | Glu | Asn | Ser | Pro | Ser | Cys | Ser | Ala | Trp | Cys | Gly | Pro |  |  |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Arg | Val | Trp | Phe | Glu | Gly | Ala | Tyr | Ser | Val | Pro | Pro | Lys | Gly | Cys | Tyr |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |  |  |
| Tyr | Met | Gln | Ile | Arg | Lys | Lys | Thr | Arg | Gln | Met | Leu | Gly | Met | Ile | Glu |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Lys | Lys | Glu | Leu | Asp | Ala | Ala | Arg | Ala | Leu | Ser | Asn | Lys | Leu | Leu | Ser |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Asp | Cys | Ala | Thr | Glu | Leu | Ala | Tyr | Pro | Ala | Lys | Ile | Tyr | Leu | Thr | Asn |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Thr | Leu | Ala | Met | Ile | Ser | Ala | Glu | Lys | Gly | Glu | Asn | Ala | Arg | Cys | Leu |  |  |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Glu | Tyr | Ala | His | Arg | Val | Gln | Lys | Gln | Ile | Pro | Val | Arg | Asp | Asp | Gly |  |  |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Gln | Pro | Ala | Glu | Asp | Leu | Leu | Pro | Ala | Glu | His | Ala | Phe | Ala | Met | Glu |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Gln | Arg | Ala | Lys | Ala | Asp | Ala | Leu | Ser | Glu | Arg | Cys | Ser | Asp | Glu | Lys |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |

<210> 158  
 <211> 81  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 158

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Val | Leu | Val | Glu | Arg | Leu | Pro | Thr | Asp | Val | Glu | Phe | Ala | Gly | Glu | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Ser | Leu | Gly | Leu | Ala | Gly | Arg | Cys | Pro | Gln | Pro | Gln | Gly | Ser | Thr | Cys |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |  |  |
| Leu | Ser | Asp | Lys | Ala | Ser | Leu | Arg | Pro | Arg | Tyr | Ala | Gln | Ser | Leu | Ile |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Ser | Ser | Arg | Tyr | Arg | Ala | Gly | Ala | Ala | Cys | Met | Leu | Leu | Ser | Lys | Pro |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ala | Ala | Gly | Leu | Phe | Arg | Val | Ser | Val | Arg | Pro | Ile | His | Leu | Tyr | Leu |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |

Gly

<210> 159  
 <211> 119  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 159

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Asp | Ile | Arg | Leu | Glu | Ile | Leu | Ala | Leu | Glu | Gln | Leu | Leu | Leu | Glu |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Pro | Glu | Ser | Arg | Lys | Asn | Asp | Arg | Leu | Leu | Lys | Gln | Leu | Leu | Thr | Glu |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |  |  |
| Asp | Phe | Val | Glu | Phe | Gly | Ala | Ile | Gly | Lys | Ser | Trp | Thr | Lys | Ala | Glu |  |  |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Val | Ile | Val | Gly | Leu | Lys | Ser | Gln | Thr | Trp | Ile | Lys | Arg | Thr | Ile | Glu |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Asp | Phe | Lys | Leu | Arg | Val | Leu | Ala | Asp | Gly | Val | Ala | Leu | Ala | Thr | Tyr |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Arg | Cys | Arg | His | Gln | Asn | Ala | Asn | Gly | Asp | Glu | Ser | Leu | Ser | Met | Arg |  |  |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ser | Ser | Val | Trp | Lys | Thr | Tyr | Glu | Asp | Gly | Trp | His | Met | Val | Phe | His |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gln | Gly | Thr | Arg | Val | Ser | Glu |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 115 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 160

<211> 511

<212> PRT

<213> Pseudomonas aeruginosa

<400> 160

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Thr | Ser | Ser | Pro | Asn | Leu | Asp | Gln | Met | Thr | Pro | Glu | Gln | Leu | Arg |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Ala | Leu | Ala | Ala | Gln | Ala | Leu | Gln | Leu | Gln | Ser | Gln | Val | Glu | Ala | Met |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |  |  |
| Ser | Arg | Lys | Ile | Arg | Asn | Asn | Glu | Thr | Leu | Ile | Glu | Gln | Phe | Lys | Phe |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Glu | Ile | Ala | Leu | Leu | Lys | Arg | His | Lys | Phe | Ala | Lys | Arg | Ser | Glu | Gln |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |  |  |
| Ile | Ser | Ser | Ala | Gln | Gly | Ser | Leu | Leu | Asp | Asp | Leu | Leu | Asp | Thr | Asp |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Leu | Glu | Ala | Ile | Glu | Ala | Glu | Leu | Lys | Gln | Leu | Leu | Pro | Ala | Ser | Pro |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Gln | Ala | Glu | Pro | Arg | Gln | Ser | Pro | Lys | Arg | Ser | Pro | Leu | Pro | Pro | Gln |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |  |  |
| Phe | Pro | Arg | Thr | Val | Ile | Arg | His | Glu | Pro | Glu | Asn | Thr | Gln | Cys | Ala |  |  |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Cys | Gly | Cys | Gln | Leu | Gln | Arg | Ile | Gly | Glu | Asp | Val | Ser | Glu | Lys | Leu |  |  |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |  |  |
| Asp | Tyr | Thr | Pro | Gly | Val | Phe | Thr | Val | Glu | Gln | His | Val | Arg | Gly | Lys |  |  |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     | 160 |  |  |
| Trp | Ala | Cys | Arg | Gln | Cys | Glu | Thr | Leu | Ile | Gln | Ala | Pro | Val | Pro | Ala |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Gln | Val | Ile | Asp | Lys | Gly | Ile | Pro | Thr | Ala | Gly | Leu | Leu | Ala | His | Val |  |  |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Met | Val | Ala | Lys | Phe | Ala | Asp | His | Leu | Pro | Leu | Tyr | Arg | Gln | Glu | Lys |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |
| Ile | Phe | Gly | Arg | Ala | Gly | Leu | Pro | Ile | Ala | Arg | Ser | Thr | Leu | Ala | Gln |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Trp | Val | Gly | Gln | Thr | Gly | Val | Arg | Leu | Gln | Pro | Leu | Val | Asp | Ala | Leu |  |  |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     | 240 |  |  |
| Arg | Glu | Ala | Val | Leu | Asn | Gln | Asp | Val | Ile | His | Ala | Asp | Glu | Thr | Pro |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Val | Gln | Met | Leu | Ala | Pro | Gly | Glu | Lys | Lys | Thr | His | Arg | Val | Tyr | Val |  |  |
|     |     | 260 |     |     |     | 265 |     |     |     |     |     |     | 270 |     |     |  |  |
| Trp | Ala | Tyr | Ser | Thr | Thr | Pro | Phe | Ser | Ala | Leu | Lys | Ala | Val | Val | Tyr |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Asp | Phe | Ser | Pro | Ser | Arg | Ala | Gly | Glu | His | Ala | Arg | Asn | Phe | Leu | Gly |  |  |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |  |  |
| Asp | Trp | Asn | Gly | Lys | Leu | Val | Cys | Asp | Asp | Phe | Ala | Gly | Tyr | Lys | Ala |  |  |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     |     | 320 |  |  |

Gly Phe Glu Gln Gly Ile Thr Glu Ile Gly Cys Met Ala His Ala Arg  
 325 330 335  
 Arg Lys Phe Phe Asp Leu His Val Ala Asn Lys Ser Gln Leu Ala Glu  
 340 345 350  
 Gln Ala Leu His Ser Ile Gly Gly Leu Tyr Glu Val Glu Arg Gln Ala  
 355 360 365  
 Arg Asp Met Ser Asn Glu Asp Arg Trp Arg Ile Arg Gln Glu Met Ala  
 370 375 380  
 Val Pro Ile Ser Lys Thr Leu His Asp Trp Met Leu Ala Gln Arg Asp  
 385 390 395 400  
 Leu Val Pro Asn Gly Ser Ala Thr Ala Lys Ala Leu Asp Tyr Ser Leu  
 405 410 415  
 Lys Arg Trp Gly Ala Leu Thr Arg Tyr Leu Asp Asp Gly Ala Val Pro  
 420 425 430  
 Ile Asp Asn Asn Gln Val Glu Asn Gln Ile Arg Pro Trp Ala Leu Gly  
 435 440 445  
 Arg Ser Asn Trp Leu Phe Ala Gly Ser Leu Arg Ser Gly Lys Arg Ala  
 450 455 460  
 Ala Ala Ile Met Ser Leu Ile Gln Ser Ala Arg Met Asn Gly His Asp  
 465 470 475 480  
 Pro Tyr Ala Tyr Leu Lys Asp Val Leu Thr Arg Leu Pro Thr Leu Arg  
 485 490 495  
 Ser Lys Asp Ile Ser Gln Leu Leu Pro His Gln Trp Val Gln Ile  
 500 505 510

<210> 161  
 <211> 111  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 161  
 Met Ile Arg Ile Asp Ala Ile Trp Leu Ala Thr Glu Pro Met Asp Met  
 1 5 10 15  
 Arg Ala Gly Thr Glu Thr Ala Leu Ala Arg Val Ile Ala Val Phe Gly  
 20 25 30  
 Ala Ala Lys Pro His Cys Ala Tyr Leu Phe Ala Asn Arg Arg Ala Asn  
 35 40 45  
 Arg Met Lys Val Leu Val His Asp Gly Val Gly Ile Trp Leu Ala Ala  
 50 55 60  
 Arg Arg Leu Asn Gln Gly Lys Phe His Trp Pro Gly Ile Arg His Gly  
 65 70 75 80  
 Cys Glu Val Glu Leu Asp Ser Glu Gln Leu Gln Ala Leu Val Leu Gly  
 85 90 95  
 Leu Pro Trp Gln Arg Val Gly Thr Gly Gly Val Ile Ser Met Leu  
 100 105 110

<210> 162  
 <211> 88  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 162  
 Met Arg Gln Arg Ser Ser Tyr Pro Lys Pro Phe Lys Ala Gln Val Val  
 1 5 10 15  
 Gln Glu Cys Leu Gln Pro Gly Ala Thr Val Ser Ser Val Ala Ile Ser  
 20 25 30  
 His Gly Ile Asn Ala Asn Val Ile Arg Lys Trp Leu Thr Leu Tyr Arg

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |     |
| Asp | Gln | Pro | Val | Pro | Ala | Ser | Leu | Pro | Ala | Phe | Val | Pro | Leu | Lys | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Pro | Lys | Arg | Pro | Ala | Glu | Thr | Ser | Val | Leu | Ile | Glu | Leu | Pro | Met |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ala | Gly | Gln | Met | Ile | Thr | Val | Lys |     |     |     |     |     |     |     |     |
|     |     |     |     | 85  |     |     |     |     |     |     |     |     |     |     |     |

<210> 163

<211> 408

<212> PRT

<213> Pseudomonas aeruginosa

<400> 163

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Leu | Ser | Leu | Ile | Arg | Ser | Leu | Thr | Ala | Ser | Ala | Ser | Arg | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Ser | Ala | Leu | Lys | Arg | Asp | Ala | Lys | Arg | Leu | Gln | Lys | Asn | Ser | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Val | Phe | Gly | Thr | Glu | Tyr | Pro | Leu | Lys | Val | Cys | Gln | Asn | Ala | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Val | Ser | Arg | Gly | Phe | Arg | Ser | Leu | Ala | Asp | Val | Asp | Lys | Leu | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gln | His | Ile | Gly | Met | Asn | Arg | Ser | Ala | Pro | Phe | Trp | Val | Ile | Arg | Gly |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Arg | Asn | Asp | Thr | His | Gln | Gly | Val | Leu | Glu | Ala | Leu | Tyr | Cys | Leu | Asp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Glu | Tyr | Thr | Glu | Asn | Gly | Pro | Val | Val | Phe | Thr | Gly | Asn | Pro | Lys |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| His | Ser | Ile | Leu | Pro | Ala | Leu | Val | Leu | Phe | Leu | Glu | Gln | Met | Ser | Phe |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Lys | Lys | Leu | Pro | Gly | Leu | Ile | Leu | Ile | Glu | Thr | Lys | Glu | Thr | Ser | Ile |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Gln | Thr | Thr | His | Ile | Phe | Asp | Ala | Ile | Glu | Lys | Leu | Glu | Val | Glu | Glu |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Thr | Leu | Asn | Lys | Phe | Arg | Phe | Leu | Asp | Leu | Arg | Asp | Arg | Asn | Leu | Pro |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Val | Ser | Leu | Ser | Thr | Glu | Ala | Arg | Cys | Trp | Ile | Glu | Ser | Ile | Val | Ser |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Leu | Leu | Pro | Asn | Asp | Ile | Gln | Glu | Ile | Arg | Asn | Lys | Gly | Trp | Ser |     |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Thr | His | Leu | Glu | Ile | Ser | Ala | Tyr | Glu | His | Ala | Lys | Ser | Arg | Asn | Gln |
|     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |
| Val | Phe | Gly | Ser | Ser | Asn | Phe | Pro | Cys | Val | Pro | Phe | Leu | Ser | Ile | Lys |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |
| Ser | Ala | Ile | Tyr | Gln | Leu | Ile | Ser | Gly | Ala | Tyr | Pro | Pro | Leu | Trp | Met |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Gln | Pro | Ser | Ser | Ser | Gly | Glu | Ile | Ser | Lys | Val | Asp | Ile | Arg | Arg | Pro |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Pro | Leu | Glu | Lys | Ser | Ser | Glu | Glu | Thr | Leu | Leu | Tyr | Leu | Ile | Lys | Lys |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Leu | Glu | Asn | Arg | Gln | Phe | His | Thr | Gly | Ile | Ser | Cys | Glu | His | Glu | Ser |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |
| Arg | Trp | Arg | Pro | Tyr | Val | Val | Leu | Phe | Ser | Arg | Asn | Asp | Pro | Ala | Ser |
| 305 |     |     |     |     | 310 |     |     |     | 315 |     |     |     |     | 320 |     |
| Glu | Val | Leu | Ala | Gly | Val | Ile | His | Ser | Tyr | Phe | Ser | Trp | Lys | Gln | Asp |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Arg | Asp | His | Arg | Ser | Pro | Thr | Leu | Tyr | Val | Ser | Asp | Gly | Ala | Val | Pro |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |

Tyr Ala Pro Lys Leu Leu Gly Leu Gly Gly His Thr Val Ile Ala Asn  
           355                          360                          365  
 Gly Ile Thr Glu Ile Pro Asp Gly Asp Gly Leu Gly Glu Phe Tyr Gly  
           370                          375                          380  
 Tyr Lys Asn Ser Leu Lys Val Ser Ser Leu Ser Asn Gly Ile Gln Phe  
 385                          390                          395                          400  
 Met Gly Lys His Val Ser Leu Lys  
                           405

<210> 164  
 <211> 749  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 164  
 Met Asn Ala Leu Thr Gln Pro Ala Ala Leu Ala Ala Ser His Leu Asn  
 1                          5                          10                          15  
 Ile Asn Leu Thr Asp Phe Ile Asp Glu Phe Gly Asp Glu Leu Leu Glu  
           20                          25                          30  
 Ser Leu Asn Arg Ser Asn Pro Pro Val Tyr Thr Gly Ser Val Asn Ala  
           35                          40                          45  
 His Arg Gln Leu Val Met Asp Arg Leu Lys Arg Lys Pro Phe Ala Ala  
 50                          55                          60  
 Gln Ala Glu Val Val Gln Ala Ile Thr Ala Leu Leu Leu Asp Arg Asn  
 65                          70                          75                          80  
 Glu Gln Ala Gly Ile Ile Asn Ala Glu Met Gly Thr Gly Lys Thr Met  
           85                          90                          95  
 Met Ala Ile Ala Val Ala Ala Val Met His Ala Ala Gly Tyr Arg Arg  
           100                          105                          110  
 Thr Leu Val Val Ser Pro Pro His Leu Val Tyr Lys Trp Arg Arg Glu  
           115                          120                          125  
 Ile Leu Glu Thr Ile Pro Ala Arg Val Trp Val Leu Asn Gly Pro  
           130                          135                          140  
 Asp Thr Leu Leu Lys Leu Leu Lys Leu Arg Asp Gln Met Gly Asp Ala  
 145                          150                          155                          160  
 Tyr Asp Gly Arg Gln Glu Phe Phe Ile Leu Gly Arg Val Arg Met Arg  
           165                          170                          175  
 Met Gly Phe His Trp Arg Leu Ala Cys Trp Lys Lys Arg Ala Ala Gly  
           180                          185                          190  
 Gly Gln Leu Leu Ala Ala Cys Pro Asp Cys Gly Gln Val Leu Glu Asp  
           195                          200                          205  
 Leu Glu Gly Asn Leu Val Thr Val Glu Glu Phe Glu Arg Gly Asp Arg  
           210                          215                          220  
 Arg Arg Thr Cys Ser Ser Cys Arg Gly Ala Leu Trp Thr Leu Ile Arg  
 225                          230                          235                          240  
 Pro Gly Lys Pro Asp Gly Gly Asn Arg Arg Ala Thr Ile Leu Lys Ser  
           245                          250                          255  
 Met Cys Arg Ile Pro Thr Ile Gly Pro Val Arg Ala Glu Arg Leu Leu  
           260                          265                          270  
 Asn Asp Phe Gly Glu Asp Phe Leu Ala Thr Met Leu Val Asp Asn Val  
           275                          280                          285  
 Ser Glu Phe Ile Asn Leu Met Asp Ala Lys Gly Asn Phe Val Phe Ser  
           290                          295                          300  
 Asp Arg Gln Ala Lys Arg Met Glu Arg Ser Met Ala Asn Ile Glu Phe  
 305                          310                          315                          320  
 Gly Phe Gly Glu Gly Tyr Gln Pro Thr Glu Phe Ile Lys Arg Tyr  
           325                          330                          335  
 Leu Pro Asp Gly Tyr Phe Asp Leu Leu Val Leu Asp Glu Gly His Glu



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Leu | Met | Phe | Pro | Arg | Leu | Ala | Arg | Asn | Phe | Ala | Arg | Asn | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Tyr | Phe | Pro | Thr | Asp | Glu | Val | Thr | Leu | Glu | Arg | Ala | Leu | Gln | Ala | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Leu | Ala | Pro | Ser | Gly | Arg | Met | Arg | Ile | Cys | Asp | Pro | Cys | Ala | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Gly | Val | Ala | Leu | Ala | Glu | Ala | Ala | His | Thr | Leu | Gly | Arg | Asp | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Gln | Ala | Leu | Ala | Val | Glu | Tyr | Asp | Arg | Glu | Arg | Ala | Asp | His | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Arg | Gly | Leu | Leu | Asp | Arg | Val | Leu | His | Ser | Asp | Leu | Phe | Asp | Thr | Met |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ile | Ser | Arg | Gln | Ser | Phe | Gly | Leu | Leu | Trp | Leu | Asn | Pro | Pro | Tyr | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Leu | Val | Ala | Asp | His | Ser | Gly | Ala | Ser | Gln | Tyr | Gln | Gly | Ser | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Arg | Arg | Leu | Glu | Lys | Ala | Phe | Tyr | Gln | Arg | Cys | Leu | Pro | Leu | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Tyr | Gly | Gly | Val | Met | Val | Leu | Ile | Val | Pro | His | Tyr | Val | Leu | Asp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asp | Glu | Leu | Thr | Gly | Trp | Leu | Ser | Asn | His | Phe | Thr | Gly | Leu | Arg | Ile |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Tyr | Ala | Ala | Ala | Asp | Pro | Thr | Phe | Lys | Gln | Val | Val | Ile | Phe | Gly | Ile |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Val | Arg | Arg | Gln | Asp | Leu | Ala | Arg | Ala | Asp | Ala | Asn | Gln | Val | Arg |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Arg | Leu | Gln | Ala | Ile | Gly | Ala | Gly | Gln | Glu | Lys | Ala | Glu | Glu | Ile |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Pro | Ala | Ala | Trp | Pro | Trp | Glu | Pro | Tyr | Val | Val | Leu | Pro | Ala | Thr | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Glu | Leu | Glu | His | Phe | Tyr | Arg | Val | Thr | Leu | Glu | Pro | Glu | Gln | Phe | Ala |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gly | Glu | Ile | Gln | Arg | Leu | Arg | Gly | Leu | Trp | Pro | Asp | Phe | Asn | Leu | His |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Phe | Ala | Gln | Ala | Gly | Leu | Gln | Pro | Arg | Pro | Pro | Val | Arg | Glu | Leu | Ser |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Arg | Trp | His | Leu | Ala | Leu | Ala | Leu | Ala | Ala | Gly | Ala | Ile | Ser | Gly | Val |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Val | Arg | Ser | Lys | Ser | Gly | Arg | Ile | Leu | Val | Val | Lys | Gly | Asp | Thr | Tyr |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Lys | Asp | Lys | Val | Arg | Lys | Thr | Glu | Phe | Thr | Glu | Asp | Asp | Asp | Gly | Asn |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ile | Thr | Glu | Val | Arg | Ile | Leu | Thr | Asp | Arg | Phe | Ile | Pro | Ile | Ile | Arg |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ala | Trp | Glu | Met | Thr | Pro | Ser | Ser | Val | Asn | Gln | Gly | Arg | Val | Leu | Thr |
|     |     |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ile | Ser | Ser | Ser | Ala | Ala | Thr | Thr | Glu | Glu | Ala | Glu | Glu | Pro | Gln | Pro |
|     |     |     | 370 |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Glu | Pro | Ala | Pro | Ala | Pro | Ala | Pro | Leu | Leu | Ile | Ser | Pro | Gly | Arg | Val |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Val | Met | Thr | Ala | Ala | Val | Ser | His | Leu | Val | Glu | Thr | Gly | Gln | Leu | Asn |
|     |     |     |     | 405 |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Pro | Ala | Pro | Leu | Leu | Lys | Arg | His | Leu | Ala | Gly | Asp | Trp | Gly | Thr | Leu |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Asp | Gln | Glu | Asp | Trp | Asn | Thr | Asn | Gln | Arg | Ala | Leu | Lys | Phe | Gly | Asp |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Arg | Leu | Leu | Ser | Ser | Tyr | Asp | Ile | Asp | Ala | Gly | Asp | Glu | Ser | Arg | Leu |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Trp | Ile | Ile | Thr | Glu | Ala | Asp | Arg | Ser | Ser | Thr | Thr | Leu | Leu | Leu | Pro |

465  
Ser Asp Tyr

470

475

480

<210> 166  
<211> 201  
<212> PRT  
<213> *Pseudomonas aeruginosa*

<400> 166  
Met Pro Ser Pro Thr Pro Leu Tyr Gln Ile Glu Glu Cys Pro Asp Leu  
1 5 10 15  
Tyr Val Asp Ala Cys Val Cys Asp Glu Gln Cys Asn Leu Val Phe Leu  
20 25 30  
Ser Ala Trp Gly Arg Asp Thr Val Thr Gln Glu Phe Leu Ala Arg Leu  
35 40 45  
Thr Leu Gly Arg Glu Glu Asn Gly Ile Asp His Phe His Ile Ile Val  
50 55 60  
Asp Gly Arg Arg Leu Pro Val Phe Pro Asn Gln Asp Leu Leu Glu Lys  
65 70 75 80  
Arg Thr Thr Arg Gln Phe Arg Gly Thr Leu Phe Gly Ser Leu Leu Asn  
85 90 95  
Leu Trp Leu Phe Asp Arg Arg Ala Ser Ala Pro Asp Arg Gly Asn His  
100 105 110  
Leu Ala Phe Ala Leu Leu Gln Arg Asp Glu Asp Pro His Gln Arg Leu  
115 120 125  
Trp Pro Leu Val Met Glu Thr Cys Pro Leu Pro Leu Leu Gln His Trp  
130 135 140  
Arg Glu Pro Val Met Glu Val Leu Thr Gln His Gln Met Leu Thr Ala  
145 150 155 160  
Leu Pro Gly Thr Ile Gly Asn Val Cys Ala Trp Arg Leu Ala Leu Arg  
165 170 175  
Val Asp Val Leu Glu Pro Thr Leu Gly Glu Val Ile Arg Glu Ser Ile  
180 185 190  
Leu Thr Thr Asp Ala Gln Ala Gln Ala  
195 200

<210> 167  
<211> 84  
<212> PRT  
<213> *Pseudomonas aeruginosa*

<400> 167  
Met Asn Pro Leu Phe Thr Asn Leu Thr Gln Glu Thr Leu Ala Tyr Leu  
1 5 10 15  
Glu Asp Gln Leu Ser Asn Asn Asp Val Ala Gly Asp Asp Glu Leu Ile  
20 25 30  
Asp Leu Phe Ile Glu Glu Leu Ser Leu Thr Leu Glu Gln Ala Glu Ala  
35 40 45  
Ala Val Ala Leu Arg Asp Gln Tyr Leu Cys Gln Val Phe Leu Ile Gly  
50 55 60  
Gln Gly Pro Leu His Gln Ala Asp Gly Leu Ser Phe Asp Pro His Thr  
65 70 75 80  
Lys Ser Val Arg

<210> 168  
 <211> 120  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 168  
 Met Gly Trp Leu Phe Ser His Gln Thr Lys Glu Asp Leu Leu Arg Glu  
 1 5 10 15  
 Leu Leu Ala Pro Thr Ser Thr Phe Ala Gly Ser Thr Glu Val Leu Ala  
 20 25 30  
 His Ala Val Ser Gly Asn Glu Leu Trp Thr Val Val Lys Arg Thr Phe  
 35 40 45  
 His Leu Ala Gly Phe Tyr Phe Gly Lys Pro Ala Gly His Ser Ile Thr  
 50 55 60  
 Met Ile Glu Leu His Leu Leu Asp Cys Ser Ala Gly Gln Trp Gly Tyr  
 65 70 75 80  
 Lys Thr Ile Pro Glu Ser Ala Gly Pro Phe Tyr Tyr Gly Cys Pro Leu  
 85 90 95  
 Glu Phe Leu Asp Leu Ala His Asp Glu Ile Asn Gln Glu Trp Arg Lys  
 100 105 110  
 Arg Leu Thr His Glu His Gln Ala  
 115 120

<210> 169  
 <211> 91  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 169  
 Met Lys Ser Ile Tyr Asn Thr Pro Gly Phe Ser Glu Glu Leu Leu Leu  
 1 5 10 15  
 Val Cys Ala Ser Leu Arg Glu Val Gly Leu Asp Asn Leu Ala Asp Gln  
 20 25 30  
 Phe Arg Ala Ala Val Phe Asp Arg Ser Val Val Asp Gln Ala Ile Ile  
 35 40 45  
 Ala Leu Arg Glu Arg Val Lys Thr Pro Ser Pro Glu His Ala Ala Asp  
 50 55 60  
 Asn Glu Pro Trp Leu Tyr Cys Asp Trp Gln Ala Arg Gln Thr Ala Tyr  
 65 70 75 80  
 Arg Leu Leu Gln Arg Leu Glu Arg Ala Thr Arg  
 85 90

<210> 170  
 <211> 136  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 170  
 Ile Pro Ser Pro Arg Ser Arg Phe Gly Gly Ile Ile Leu Phe Ala Gly  
 1 5 10 15  
 His Thr Met Ile Thr Val Pro Gly Gln Leu Ala Ile Arg Thr Ile Asn  
 20 25 30  
 Gly Arg Tyr Gly Glu Phe Asn Val Gly Lys Leu Trp Thr Ser Ile Gly  
 35 40 45  
 Glu Phe Ile Ile Lys Asp Ala Phe Leu Asp Gln His Thr Glu Gly Lys  
 50 55 60  
 Tyr Arg Gly Asp Phe Val Ile Ala Asn Ile Arg Pro His His Tyr Ser



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |
| Ala | Gly | Gly | Arg | Leu | Val | Ile | Glu | Ile | Arg | Ala | Ile | Val | Asp | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  | Met |
| Thr | Leu | Asn | Asp | Met | Asp | Ser | Leu | Ser | Asp | Glu | Glu | Val | Glu | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 | Leu |
| Ser | Gly | Asn | Glu | Val | Asp | Pro | Leu | Asp | Glu | Val | Pro | Glu | Ile | Gln |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     | Leu |
| Pro | Thr | Val | Val | Pro | Ala | Ile | Pro |     |     |     |     |     |     |     |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     |     |     |     |

<210> 171  
 <211> 209  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 171

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Ser | Leu | Asn | Asn | His | Ser | Ser | Ala | Gly | His | Thr | Ala | Ala | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Lys | Leu | Pro | Ile | Val | Leu | Thr | Asn | Ala | Ala | Trp | Leu | Arg | Leu | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Leu | Ala | Asn | Pro | Ala | Arg | Val | Asp | Glu | Met | Gly | Thr | Arg | Leu | Ala |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ser | Val | Val | Gln | Thr | Ala | Trp | Gln | Glu | Leu | Ser | Leu | Gln | Pro | Thr | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | His | Ile | Gln | Phe | His | Leu | Tyr | His | Lys | Glu | Glu | Glu | Gly | Gln | Asp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Arg | Ala | Leu | Ala | Leu | Leu | Val | Leu | Ser | Ile | Val | Glu | Pro | Ser | Asp | Glu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Pro | Ser | Tyr | Leu | Arg | Ile | Glu | Leu | Gln | Glu | Glu | Cys | Leu | Ala | Glu | His |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Pro | Val | Thr | Glu | Pro | Lys | Ser | Pro | Ser | Pro | Gln | Lys | Ser | Lys | Pro | Leu |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Cys | Leu | Ala | Ala | Thr | Arg | Asp | Ala | Pro | Phe | Gly | Met | Asp | Thr | Pro | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Ala | Glu | Gln | Ala | Ala | Ser | Leu | Asp | Thr | Asp | Ala | Asp | Ala | Glu | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Phe | Gly | Thr | Val | Trp | Pro | Leu | Gly | Glu | Ile | Val | Lys | Leu | Asp | Thr | Thr |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Val | Asp | Arg | Lys | Arg | Leu | Arg | Gln | Gln | Cys | Val | Arg | Leu | Gly | Ala | Leu |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Gly | Tyr | Glu | Leu | Asp | Phe | Lys | Gln | Gln | Val | Trp | Thr | Arg | Lys | Glu | Ala |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |

Ala

<210> 172  
 <211> 235  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 172

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Gln | Leu | Asn | Pro | Phe | Ile | Arg | Gly | Tyr | Glu | Ser | Phe | Arg | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Arg | Asn | Leu | Gln | Ile | Thr | Asp | Glu | Gly | Asn | Asn | Leu | Pro | Cys | Tyr |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Ala | Leu | His | Glu | Thr | Gln | Gln | His | Leu | Pro | Asp | Glu | Tyr | Phe | Gln |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Glu | Leu | Cys | Tyr | Phe | Asn | Asn | Asp | Phe | Ala | Val | Val | Val | Gln | Glu |
| 50  |     |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Asp | Asp | Glu | Arg | Val | Glu | Lys | Cys | Pro | His | Gln | Gly | Ile | Val | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asn | Val | Leu | Tyr | Ser | Ile | Tyr | Gly | Glu | Gln | Asp | Gly | Arg | Lys | Lys | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ile | Gly | Asp | Gln | Tyr | Ser | Leu | Thr | Glu | Ala | Glu | Ser | Val | Val | Arg | Tyr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Ser | Phe | Gly | Gly | Gly | Tyr | Asn | Pro | Cys | Trp | Glu | Ile | Arg | Lys | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| His | Leu | Pro | Ile | Ser | Ala | Trp | Asn | Ser | Leu | Tyr | Glu | Arg | Phe | Ser | Thr |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Met | Pro | Ile | Arg | Leu | Pro | Ser | Val | Leu | Val | Ser | Leu | Phe | Trp | Cys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asn | Glu | His | Gly | Ala | Val | Gly | Phe | Arg | Leu | His | Asn | Thr | Pro | Trp | Thr |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asp | Glu | Cys | Leu | Glu | Ile | Leu | Glu | Met | Thr | Ala | Ala | Ala | Leu | Arg | Gln |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Glu | Gln | Leu | Ala | Phe | Gly | Leu | Asp | Glu | His | Leu | Val | Asp | Leu | Leu | His |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Ala | Gly | Gln | Ala | Asp | Ile | Arg | Leu | Leu | Val | Leu | Asp | Pro | Phe | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Pro | Thr | Leu | Lys | Gly | Leu | Pro | Leu | Tyr | Asp | Asp |     |     |     |     |     |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     |

<210> 173  
 <211> 78  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 173

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Leu | Val | Phe | Pro | Thr | Glu | Arg | Arg | Ile | Thr | Met | Gln | Tyr | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Leu | Ala | Leu | Ala | His | Leu | Ser | Leu | Glu | Leu | Pro | Leu | Gln | Val | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met | Asn | Lys | Asn | Arg | Ala | Tyr | Tyr | Ile | Gly | Thr | Ser | Asp | Glu | Glu | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Ala | Ser | Arg | Glu | Ser | Val | Glu | Tyr | Tyr | Pro | Ser | Arg | Glu | Leu | Ala |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Gln | Ala | Leu | Asp | His | Gly | Thr | Trp | Thr | Gln | Leu | Glu | Tyr |     |     |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     |

<210> 174  
 <211> 88  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 174

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Asn | Val | Trp | Arg | Leu | Cys | Gln | Gly | Arg | Tyr | Leu | Gly | Ile | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Gly | Gln | Glu | Gln | Pro | Gly | Glu | Val | Ala | Glu | Leu | Thr | Ala | Glu | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Leu | Val | Leu | Asp | Val | Ala | Glu | Ala | Asn | Leu | Leu | Asn | Phe | Arg | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gly | Gln | Phe | Tyr | Asp | Leu | Asp | Val | Ala | His | Asp | Asp | Leu | Gln | Ile |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Met | Glu | Asn | Thr | Thr | Pro | Trp | Gly | Glu | Met | Val | Pro | Pro | Gly | Trp | Val |



Met Gly Arg Pro Pro Leu Gln Leu Glu Ser Leu Asn Asp His Glu Ile  
130 135 140  
Ala Leu Leu Pro Ala Pro Pro Gly Ser Ala Val Ser Trp Glu Leu His  
145 150 155 160  
Arg Arg Thr Gln Glu Gln Tyr Gln Gln Arg Trp Gln Asp Tyr Leu Ser  
165 170 175  
Thr Met Thr Asp Glu Gln Val Ala Ala Leu Gly Arg  
180 185

<210> 177  
<211> 214  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 177  
Met Val Phe Leu Leu Gln Val Glu Gly Ala Glu Lys Thr Leu Ala Leu  
1 5 10 15  
Ala Gly Lys Trp Ile Pro Arg Trp Val Ala Glu Gly Ser Phe Tyr Arg  
20 25 30  
Pro Arg Pro Thr Asp Arg Ala Thr Arg Ser Tyr Ala Val Leu Gly Trp  
35 40 45  
Ile Asn Thr Val Gly Cys Ala Ala Phe Arg Ile Arg Ala Ala Trp  
50 55 60  
Gly His Val Ala Asp Asn Val Ser Arg Ser Arg Val His His Arg Ser  
65 70 75 80  
Gly Gly Arg Lys Cys Gln Gly Gln Ala Gly Gly Gly Ala Asp Ala Ala  
85 90 95  
Gly Gly Glu Arg Gly Arg Lys Ser Ala Ala Gly Arg Asn Pro Val Lys  
100 105 110  
Gly Phe Pro Ser Arg Val Trp Lys Gly Ser Gln Val Ser His Leu Trp  
115 120 125  
Leu Asn Arg Arg Ser Leu Gly Ile Asp Arg Leu Asp Pro Ile Thr Arg  
130 135 140  
Pro Leu Ser Trp Leu Gly Gln Gln Thr Val Gly Thr His Pro Arg Thr  
145 150 155 160  
Lys Gly Ala Leu Arg Ile Thr Gly Gly Pro Pro Ala Gly Arg Arg Ile  
165 170 175  
Pro Met Gly Ser Leu Ile Val Leu Glu Gln Glu His Gln Ala Thr His  
180 185 190  
Gly Glu Gly Lys Arg Arg Gly Arg Asn Thr Ser Thr Thr Leu Lys Ser  
195 200 205  
Arg Lys His Arg Thr Ser  
210

<210> 178  
<211> 145  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 178  
Met Pro Leu Met Trp Ile Val Leu Val Leu Ala Leu Ile Thr Gly Thr  
1 5 10 15  
Trp Leu Ser Val Gln Ser Asp His Ala Thr Ser Ser Ala Glu Leu Ala  
20 25 30  
Glu Val Asp Thr Leu Ala Arg Ser Leu Leu Leu Phe Arg Ser Ser Leu  
35 40 45  
Ala Glu Tyr Ala His Ala Asn Pro Gly Phe Thr Gly Ser Pro Ala Asp

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |
| Ser | Ala | Leu | Gly | Leu | Pro | Ala | Trp | Phe | Arg | Lys | Pro | Ala | Arg | Leu | Gln |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gly | Tyr | Ile | Ala | Ala | Gly | Thr | Ser | Tyr | Ala | Phe | Ile | Ala | Ser | Pro | Pro |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Gly | Leu | Ala | Ala | Ala | Val | Asp | Ala | Gly | Thr | Glu | Ser | Asp | Leu | Val |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Val | Arg | Arg | Asn | Gly | Gln | Leu | Val | Thr | Arg | Arg | Leu | Gly | Ala | Thr |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Val | Ile | Ala | Leu | Pro | Thr | Pro | Ile | Pro | Glu | Gly | Ala | Val | Val | Ala | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 179  
 <211> 442  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 179

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Ser | Thr | Arg | Ser | Ser | Gly | Phe | Ile | Ser | Ile | Glu | Leu | Met | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Leu | Val | Val | Ile | Ala | Ile | Ala | Thr | Ala | Gly | Gly | Ile | Ser | Val | Leu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met | Ser | Tyr | Leu | Asp | Gly | Leu | Asp | Glu | Gln | His | Ala | Ala | Gln | Gln | Gln |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Gln | Gln | Val | Ala | Lys | Ala | Ala | Glu | Lys | Tyr | Leu | Lys | Asp | Asn | Phe | Ser |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Thr | Val | Leu | Ala | Ser | Ala | Gly | Ala | Thr | Ala | Pro | Ala | Val | Ile | Thr | Val |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Met | Leu | Arg | Asn | Thr | Arg | Tyr | Leu | Pro | Ala | Gly | Phe | Arg | Asp | Thr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asn | Ile | Tyr | Gly | Gln | Gln | Tyr | Gln | Val | Leu | Ala | Arg | Lys | Pro | Ala | Ala |
|     | 100 |     |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Asn | Gln | Leu | Glu | Thr | Leu | Ile | Val | Thr | Thr | Gly | Gly | Gln | Val | Ala | Ser |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Glu | Leu | Ser | Ile | Arg | Arg | Ile | Ala | Gln | Leu | Met | Gly | Ala | Thr | Gly | Gly |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Tyr | Ile | Ser | Lys | Thr | Asn | Thr | Ser | Ile | Ala | Gln | Gly | Ala | Ala | Trp | Gln |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Val | Ala | Leu | Ser | Asn | Phe | Gly | Ser | Ala | Pro | Gly | Ala | Gly | His | Leu | Ala |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Thr | Ala | Leu | Phe | Phe | Gln | Asp | Gly | Ala | Ile | Ala | Asn | Glu | Tyr | Leu | Tyr |
|     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Arg | Asn | Ala | Val | Pro | Gly | His | Pro | Glu | Leu | Asn | Arg | Met | Asn | Thr | Thr |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Leu | Asp | Met | Gly | Gly | Asn | Asn | Ile | Ala | Ala | Ala | Gly | Ala | Ile | Thr | Ala |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Ser | Gly | Asn | Ile | Thr | Thr | Ser | Ala | Asp | Ile | Ser | Ala | Arg | Asn | Val | Thr |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Ala | Thr | Gly | Thr | Val | Lys | Ala | Gly | Thr | Ala | Asp | Val | Ala | Gly | Glu | Thr |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Tyr | Thr | Gly | Gly | Trp | Phe | Arg | Thr | Arg | Gly | Asp | Thr | Gly | Trp | Tyr | Asn |
|     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Glu | Lys | Trp | Gly | Gly | Gly | Trp | Tyr | Met | Ser | Asp | Ser | Thr | Trp | Val | Arg |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Ser | Trp | Met | Asn | Lys | Asn | Val | Tyr | Thr | Gly | Gly | Glu | Met | Lys | Ala | Gly |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |

Lys Leu Thr Ala Glu Gly Arg Thr Glu Val Gly Glu Tyr Leu Gln Leu  
 305 310 315 320  
 Lys Gly Val Ala Thr Glu Gly Ala Asn Cys Ser Pro Asn Gly Leu Ala  
 325 330 335  
 Gly Ile Thr Ser Thr Gly Leu Trp Leu Ser Cys Gln Asn Gly Lys Trp  
 340 345 350  
 Gly Arg Thr Ala Ala Ser Met Arg Leu Asn Thr Thr Ala Gly Val Ile  
 355 360 365  
 Lys Asp Trp Cys Thr Leu His Gly Gln Asp Ser Ala Met Val Asn Tyr  
 370 375 380  
 Asp Tyr Val Arg Tyr Ala Ile Thr Cys Gly Gly Arg Phe Cys Ala Val  
 385 390 395 400  
 Gly Phe Asn Gln Thr Phe Gly Thr Asn Tyr Ser Phe Gly Leu Ile Thr  
 405 410 415  
 Glu Ile Gly Pro Gly Phe Asn Tyr Pro Glu Pro Tyr Lys Thr Pro Asp  
 420 425 430  
 Ser Thr Asn Val Thr Val Thr Cys Val Asn  
 435 440

<210> 180  
 <211> 313  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 180  
 Val Ser Val Asn Pro Ile Ile Gln Ala Gln Phe Val Asp Leu Tyr Leu  
 1 5 10 15  
 Gly Glu Gly Phe Ala Asp Val Lys Gly Leu Ala Gly Ala Gly Ala Arg  
 20 25 30  
 Arg Val Glu Val Pro Arg Glu Trp Glu Ser His Val Gln Glu Leu Leu  
 35 40 45  
 Gln Ile Cys Arg Gln Thr Leu Glu Glu Leu Gln Asp Pro Glu Phe Ala  
 50 55 60  
 Ile Val Val Asp Gly Val Leu Leu Arg Val Thr Leu Leu Glu Asp Ala  
 65 70 75 80  
 Phe Ser Gly Ser Val Phe Val Leu Arg Arg Ser Ser Ala Gln Leu Arg  
 85 90 95  
 Glu Phe Gln Glu Ile Gly Tyr Pro Ser Glu Val Val Ser Ala Leu Met  
 100 105 110  
 Asp Pro Gln Leu Gln Gly Leu Val Leu Phe Cys Gly Glu Met Ala Thr  
 115 120 125  
 Gly Lys Thr Ser Ser Ala Ala Ser Leu Leu Leu Ala Arg Leu Gln Glu  
 130 135 140  
 Leu Gly Gly Val Gly Cys Ala Val Glu Asp Pro Gln Glu Thr Asn Leu  
 145 150 155 160  
 Ser Gly Gln His Gly Leu Gly Arg Cys Ile Gln Val Arg Thr Ser Arg  
 165 170 175  
 Arg Ser Gly Gly Tyr Ser Glu Ala Leu Leu Arg Thr Leu Arg Ala Gly  
 180 185 190  
 Ala Asp Leu Val Leu Ile Gly Glu Ile Arg Asp Glu Asp Thr Ala Tyr  
 195 200 205  
 Gln Ala Cys Lys Ala Ser Leu Thr Gly Ser Leu Val Ile Ala Thr Ile  
 210 215 220  
 His Ala Lys Ser Cys His Gln Ala Ile Glu Arg Leu Val Thr Leu Ala  
 225 230 235 240  
 Gln Pro Leu Ala Arg Asn Ala Tyr Asp Val Val Ala Glu Gly Ile Gln  
 245 250 255  
 Ala Val Ile Cys Gln Ala Leu Glu Ser Asp Gly Ser Ser Arg Arg Leu



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Val | Glu | Ala | Gln | Ala | Arg | Ile | Arg | Ala | Thr | Ile | Trp | Gln | Ala | Leu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Tyr | Pro | Ser | Ala | Leu | Ser | Ala | Met | Met | Val | Phe | Leu | Leu | Cys | Ile |
|     | 130 |     |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Val | Ala | Tyr | Arg | Met | Val | Pro | Ser | Leu | Ala | Arg | Leu | Ser | Asp | Pro | Val |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Thr | Trp | Thr | Gly | Pro | Leu | Ala | Thr | Leu | Asn | Ala | Ile | Ala | Ser | Phe | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr | Gly | Pro | Gly | Ile | Tyr | Val | Leu | Val | Ala | Val | Ile | Thr | Leu | Thr | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Val | Val | Ile | Val | Thr | Leu | Pro | Thr | Tyr | Arg | Trp | Lys | Gly | Arg | Val | Trp |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Asp | Arg | Thr | Leu | Pro | Pro | Trp | Ser | Ile | Tyr | Arg | Met | Leu | Gln | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Thr | Thr | Phe | Leu | Leu | Asn | Met | Ala | Val | Met | Leu | Asn | Ala | Gly | Ile | Arg |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Pro | Tyr | Asp | Ser | Leu | Ala | Ser | Met | Ile | Lys | Ile | Ser | Pro | Pro | Trp | Leu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Lys | Gln | Arg | Leu | Glu | Ala | Ala | Arg | Tyr | Gly | Val | Gly | Leu | Gly | Gln | Asn |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Gly | Val | Ala | Leu | Arg | Ser | Ala | Gly | His | Asp | Phe | Pro | Asp | Arg | Gln |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Ala | Ile | Gln | Tyr | Leu | Cys | Ile | Leu | Ala | Asn | Arg | Gly | Gly | Phe | Ser | Glu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ala | Leu | Val | Lys | Phe | Ser | Arg | Arg | Trp | Gln | Glu | Thr | Ser | Leu | Lys | Gln |
|     | 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ile | Glu | Leu | Ala | Ala | Gly | Leu | Val | Lys | Asn | Phe | Ala | Leu | Ile | Phe | Ile |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gly | Ala | Leu | Met | Ile | Leu | Val | Leu | Leu | Gly | Ala | Tyr | Gln | Ala | Gln | Gln |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Leu | Ile | Gln | Ser | Met | Asn | His |     |     |     |     |     |     |     |     |     |
|     | 355 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 183

<211> 526

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 183

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Asn | Leu | Gln | Ile | Ala | Ala | Leu | Ala | Gln | Pro | Ser | Met | Val | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Leu | Leu | Thr | Ala | Asp | Gly | Gly | Glu | Trp | Glu | Val | Ser | Lys | His | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Glu | Ile | Met | Ala | Leu | Ala | Ala | Asp | Gly | Thr | Leu | Tyr | Leu | Ser | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | His | Gln | Asn | Asp | Ile | His | Val | Leu | Ser | Phe | Ile | Asp | Arg | Leu | Asp |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Arg | Arg | Gly | Phe | Arg | Tyr | Gln | Leu | Asn | Leu | Thr | Asp | Leu | Gln | Thr | Ile |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| His | Gln | Leu | Tyr | Arg | Ala | Val | Ala | Met | Asp | Gly | Leu | Val | Asp | Ser | Asp |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Gly | Gln | Arg | Ala | Thr | Gln | Met | Gln | Glu | Arg | Val | Val | Lys | Ile | Ile | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Ala | Thr | Glu | Leu | Arg | Ala | Ser | Asp | Val | His | Phe | Val | Val | Ser | Pro |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Gly | Thr | Gly | Ser | Lys | Ile | Arg | Phe | Arg | Val | Asp | Gly | Leu | Leu | Lys |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Val | Glu | Gln | Phe | Arg | Ser | Gln | Glu | Leu | His | Glu | Leu | Cys | Ala | Thr |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |
| Ile | Tyr | Gln | Ser | Met | Cys | Asp | Val | Ala | Glu | Pro | Leu | Phe | Lys | Pro |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |
| Leu | Asp | Gln | Asp | Ala | Arg | Met | Ser | Gln | Thr | Phe | Val | Glu | Lys | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |
| Leu | Phe | Ser | Ala | Arg | Ile | Ala | Thr | Arg | Pro | Arg | Ala | Gly | Gly | Phe |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     | Leu |
| Met | Ile | Leu | Arg | Leu | Leu | Tyr | Asp | Asp | Thr | Gly | Leu | Asp | Ser | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     | Glu |
| Gln | Leu | Gly | Tyr | Leu | Pro | Glu | Gln | Asn | Ala | Leu | Phe | Asp | Arg | Met |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |
| Arg | Met | Pro | Tyr | Gly | Ile | Asn | Ile | Leu | Ser | Gly | Pro | Thr | Gly | Ser |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |
| Lys | Ser | Met | Thr | Leu | Lys | Val | Thr | Leu | Glu | Gly | Leu | Asp | Lys | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 | His |
| Gly | Gly | Ser | Lys | His | Ile | Leu | Thr | Ile | Glu | Asp | Pro | Pro | Glu | Tyr |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     | Arg |
| Ile | Arg | Gly | Glu | Gly | Ile | Asn | Gln | Thr | Pro | Leu | Val | Tyr | Asp | Ala |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     | Thr |
| Asp | Pro | Asp | Ala | Glu | Arg | Gln | Ala | Trp | Ala | Ala | Gly | Ile | Ala | Asn |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | Gly |
| Met | Arg | Leu | Asp | Pro | Asp | Tyr | Met | Met | Ile | Gly | Glu | Val | Arg | Asp |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | Leu |
| Phe | Ala | Ala | Val | Ala | Ala | Phe | Arg | Gly | Ala | Met | Thr | Gly | His | Gly |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 | Leu |
| Trp | Ser | Thr | Leu | His | Thr | Asn | Ser | Ala | Ile | Gly | Ile | Val | Gln | Arg |
|     |     | 355 |     |     |     | 360 |     |     |     |     |     | 365 |     | Leu |
| Lys | Asp | Leu | Gly | Val | Asp | Pro | Gly | Leu | Leu | Phe | Asp | Pro | Ala | Leu |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     | Leu |
| Thr | Gly | Leu | Ile | Asn | Gln | Ser | Leu | Leu | Pro | Lys | Leu | Cys | Pro | His |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | Cys |
| Lys | Val | Arg | Phe | Gln | Asp | His | Gln | Asp | Gln | Leu | Ala | Pro | Asp | Leu |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | Val |
| Glu | Arg | Val | Arg | Arg | Leu | Thr | Asp | Val | Ser | Gln | Val | His | Val | Lys |
|     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     | Gly |
| Pro | Gly | Cys | Gln | Ala | Cys | Arg | Gly | Ser | Gly | Val | Asn | Gly | Arg | Ser |
|     | 435 |     |     |     |     |     | 440 |     |     |     | 445 |     |     | Ile |
| Val | Ala | Glu | Val | Val | Leu | Pro | Thr | Leu | Ala | Phe | Met | Arg | Val | Phe |
|     | 450 |     |     |     |     | 455 |     |     |     | 460 |     |     |     | Ala |
| Lys | Gly | Gly | Pro | Ala | Glu | Ala | Arg | Asn | Tyr | Trp | Val | Lys | Thr | Met |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     | Gln |
| Gly | Ile | Thr | Lys | His | Ala | His | Ala | Ile | Arg | Arg | Ile | Asn | Glu | Gly |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 | Met |
| Phe | Asp | Pro | Gln | Met | Val | Glu | Asp | Phe | Ile | Gly | Pro | Leu | Asp | Phe |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 | Asp |
| Glu | His | Leu | Leu | Asp | Asp | Ser | Phe | Tyr | Ser | Gln | Glu | Ala | Cys |     |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |

<210> 184  
 <211> 177  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 184  
 Met Arg Thr Glu Pro Ile Gly Met Ala Val Ala Val Leu Phe Leu Leu  
 1 5 10 15  
 Ala Ser Gly Gln Ala Cys Ala Gly Thr Val Gly Glu Leu Ala Glu Ile  
 20 25 30

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ala | Gln | Ala | Ile | Leu | Thr | Glu | Ala | Lys | Val | Arg | Leu | Ala | Thr | Ala |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Arg | Gln | Leu | Glu | Gly | Lys | Gly | Glu | Thr | Gly | Gln | Val | Val | Ser | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Gly | Gln | Thr | Phe | Ala | Met | Pro | Val | Pro | Ala | Ala | Pro | Pro | Thr | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Gln | Pro | Val | Pro | Pro | Val | Val | Arg | Thr | Ile | Tyr | Gly | Ala | Gly | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Met | Thr | Ala | Thr | Phe | Leu | Phe | Pro | Gly | Gly | Tyr | Glu | Val | Asp | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Ser | Gly | Ala | Glu | Leu | Pro | Gly | Lys | Tyr | Arg | Val | Glu | Ser | Ile | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Asp | Gln | Val | Val | Leu | Thr | Asp | Lys | Asp | Gly | Asn | Arg | Val | Pro | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Phe | Ser | Ser | Val | Ala | Pro | Thr | Gln | Ala | Ser | Ser | Thr | Ala | Gln | Gly |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ala | Ser | Val | Pro | Pro | Ala | Leu | Pro | Gly | Ala | Val | Pro | Gln | Pro | Phe | Ile |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |

Gln

<210> 185  
 <211> 441  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 185

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Lys | Pro | Asp | Leu | Gly | Ser | Arg | Gly | Pro | Asp | Val | Ser | Ile | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Tyr | His | Gly | Asn | Lys | Phe | Val | Ser | Gly | Leu | Phe | Trp | Arg | Pro | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Ser | Gln | Arg | Gln | Tyr | Met | Lys | Glu | Ala | Arg | Lys | Leu | Gly | Lys | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | His | Leu | Asp | Ile | Val | Ala | Ile | Arg | His | Ser | Pro | Thr | Val | Ile | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Ala | Gly | Phe | Val | Ser | Lys | Ser | Gln | Gly | Ala | Val | Lys | Gly | Met | Tyr | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Leu | Ala | Ser | Ala | Leu | Ser | Gly | Gln | Phe | Asp | Gly | Asp | Phe | Leu | Ala | Cys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Trp | Lys | Val | Asp | Glu | Asp | Arg | Tyr | Ala | Leu | Val | Ala | Thr | Leu | Asp | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Ile | Val | Pro | Gly | Gln | Asp | Leu | Val | Thr | Thr | Leu | Asp | Glu | Ala | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Arg | Val | Arg | Lys | Leu | Ser | Thr | Arg | Gly | Val | Leu | Arg | Asn | Ala | Gln |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Phe | Val | Pro | Glu | Gly | Phe | Asp | Phe | Pro | Val | Lys | Asp | Phe | Asp | Ile |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Glu | Glu | Leu | Leu | Ala | Pro | Lys | Arg | Leu | Arg | Arg | Asp | Tyr | Arg | Leu | Arg |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Gln | Leu | Thr | Phe | Gly | Leu | Ser | Ala | Arg | Glu | Trp | Thr | Ala | Val | Ala | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Gly | Cys | Val | Val | Gly | Gly | Ser | Leu | Thr | Ala | Tyr | Tyr | Leu | Trp | Asn |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | His | Gln | Glu | Glu | Leu | Ala | Arg | Gln | Ala | Ala | Leu | Leu | Glu | Glu | Gln |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Arg | Leu | Ala | Glu | Leu | Ala | Glu | Lys | Asn | Ala | Gln | Ala | Lys | Gln | Pro |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     |     | 240 |
| Leu | Asp | Leu | Ala | Ser | Leu | Gln | Lys | Pro | Trp | Thr | Leu | Ile | Pro | Asp | Leu |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ala | Gly | Ile | Ser | Gly | Asp | Gly | Ser | Gly | Ser | Thr | Gly | Gln | Asn | Gly |
| 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Ser | Gly | Ile | Ser | Gly | Asp | Ser | Gly | Ser | Lys | Gln | Thr | Thr | Ser | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Glu | Leu | Lys | Thr | Ser | Ile | Leu | Ser | Asp | Ile | Glu | Asn | Ser | Ile | Asn | Ser |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Met | Leu | Thr | Pro | Ser | Met | Gly | Arg | Met | Ser | Leu | Ser | Arg | Ala | Thr | Gly |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Thr | Leu | Thr | Val | Thr | Asp | Arg | Pro | Glu | Val | Leu | Asn | Arg | Val | Gln | Gln |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Leu | Val | Asn | Arg | Glu | Asn | Glu | Ser | Ile | Thr | Lys | Gln | Val | Leu | Leu | Asn |
|     |     |     | 290 |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Val | Asn | Val | Leu | Ser | Val | Ala | Leu | Thr | Asp | Lys | Asp | Gln | Leu | Gly | Ile |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Asp | Trp | Asn | Leu | Val | Tyr | Lys | Ser | Leu | Asn | Lys | Trp | Gly | Ile | Gly |     |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     | 335 |     |     |
| Leu | Lys | Asn | Thr | Met | Pro | Gly | Ile | Asp | Gln | Ser | Ala | Ile | Ser | Gly | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Val | Ser | Ile | Leu | Asp | Thr | Ala | Asn | Ser | Ala | Trp | Ala | Gly | Ser | Lys | Ala |
|     |     |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Met | Val | Gln | Ala | Leu | Ala | Gln | Gln | Gly | Arg | Val | Ser | Thr | Val | Arg | Ser |
|     |     |     | 370 |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Ser | Val | Thr | Thr | Leu | Asn | Leu | Gln | Ser | Ala | Pro | Ile | Gln | Ile | Gly |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Arg | Tyr | Asp | Ser | Tyr | Leu | Ala | Ser | Ser | Gln | Ile | Ser | Asn | Val | Ala | Gln |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Val | Gly | Ser | Thr | Thr | Ser | Leu | Ile | Pro | Gly | Ala | Val | Thr | Ser | Gly | Tyr |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     | 430 |     |     |     |
| Asn | Met | Ser | Leu | Leu | Pro | Phe | Val | Met | Glu | Ser | Gly | Glu | Met | Leu | Leu |
|     |     | 435 |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |
| Lys | Ile | Asn | Ile | Asn | Met | Thr | Ser | Arg | Pro | Thr | Phe | Glu | Met | Gln | Thr |
|     | 450 |     |     |     | 455 |     |     |     |     |     | 460 |     |     |     |     |
| Ser | Gly | Asp | Ser | Lys | Ala | Gln | Phe | Pro | Ser | Tyr | Asp | Ile | Gln | Leu | Phe |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Asp | Gln | Lys | Val | Arg | Leu | Arg | Ser | Gly | Glu | Thr | Leu | Val | Leu | Ser | Gly |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |
| Phe | Asp | Gln | Thr | Thr | Glu | Asp | Thr | Asn | Lys | Val | Gly | Thr | Gly | Asp | Ala |
|     |     |     | 500 |     |     |     | 505 |     |     |     |     |     | 510 |     |     |
| Gly | Phe | Phe | Gly | Leu | Gly | Gly | Gly | Leu | Thr | Arg | Asn | Thr | Lys | Arg | Glu |
|     |     | 515 |     |     |     | 520 |     |     |     |     |     | 525 |     |     |     |
| Val | Ile | Val | Val | Leu | Ile | Thr | Pro | Val | Val | Leu | Gly |     |     |     |     |
| 530 |     |     |     |     | 535 |     |     |     |     |     | 540 |     |     |     |     |

<210> 187

<211> 374

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 187

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Arg | Gln | Leu | Thr | Thr | Leu | Thr | Leu | Cys | Leu | Leu | Leu | Ala | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Thr | Thr | His | Lys | Ala | Glu | Pro | Ala | Arg | Pro | Ala | Phe | Asp | Ser | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Asn | Pro | Asp | Leu | Leu | Ser | Pro | Asp | Leu | Tyr | Pro | Asn | Gly | Val | Gln |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Pro | Glu | Lys | Glu | Pro | Val | Val | Arg | Tyr | Gly | Arg | Tyr | Thr | Leu | Val | Ser |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Thr | Gln | Pro | Asp | Ala | Gly | Gln | Arg | Asp | Leu | Met | Ala | Gln | Ile | Ile | Asp |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  | Val | Thr | Ile | Pro | Ser | Ser | Met | Asn | Pro | Ser | Val | Lys | Asp | Ala | Met | Gln |
|     |     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
|     | Tyr | Val | Met | Ser | Arg | Ser | Gly | Tyr | Ser | Leu | Cys | Pro | Ala | Asp | Ala | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
|     | His | Val | Asn | Ile | Leu | Tyr | Thr | Arg | Pro | Leu | Pro | Ala | Ala | Gln | Tyr | Lys |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
|     | Leu | Gly | Pro | Met | Thr | Leu | Arg | Asn | Thr | Leu | Gln | Val | Leu | Ser | Gly | Pro |
|     |     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
|     | Ala | Trp | Gln | Val | Lys | Val | Asp | Glu | Val | Ala | Arg | Gln | Val | Cys | Phe | Val |
| 145 |     |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
|     | Leu | Arg | Pro | Gly | Tyr | Gln | Leu | Pro | Pro | Ala | Pro | Arg | Pro | Lys | Pro | Val |
|     |     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
|     | Gln | Gln | Leu | Tyr | Ala | Lys | Pro | Ala | Ala | Pro | Thr | Pro | Pro | Ala | Val | Ala |
|     |     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
|     | Gln | Pro | Ser | Ser | Thr | Glu | Lys | Val | Ser | Thr | Leu | Glu | Ser | Pro | Ile | Val |
|     |     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
|     | Val | Ala | Ser | Val | Pro | Thr | Pro | Ala | Pro | Ile | Thr | Thr | Ser | His | Ala | Pro |
|     |     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
|     | Ala | Lys | Lys | Pro | Glu | Ser | Thr | Thr | Val | Leu | Pro | Pro | Ala | Ala | Pro | Ala |
| 225 |     |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
|     | Lys | Asp | Gly | His | Pro | Ser | Ser | Pro | Pro | Ala | Ala | Ser | Ala | Pro | Thr | Lys |
|     |     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
|     | Pro | Ala | Ala | Ser | Ala | Val | Lys | Ser | Thr | Pro | Pro | Thr | Pro | Pro | Thr | Val |
|     |     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
|     | Ala | Ser | Ala | Pro | Pro | Val | Lys | Val | Leu | Thr | Pro | Pro | Glu | Pro | Ser | Arg |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
|     | Pro | Leu | Ala | Gln | Ala | Trp | Ser | Ala | Glu | Thr | Gly | Ser | Thr | Leu | Arg | Asp |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |
|     | Thr | Leu | Glu | Ala | Trp | Ala | Lys | Arg | Ala | Arg | Trp | Thr | Val | Arg | Trp | Glu |
| 305 |     |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
|     | Pro | Gln | Asp | Leu | Asn | Tyr | Pro | Ile | Glu | Ala | Pro | Leu | Thr | Phe | His | Gly |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
|     | Ser | Phe | Glu | Asp | Ala | Val | Ser | Glu | Leu | Phe | Pro | Leu | Tyr | Asp | Ala | Ala |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
|     | Glu | Arg | Pro | Phe | Leu | Val | Asn | Ala | Ser | Arg | Pro | Gln | Ser | Leu | Ile | Ile |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
|     | Ile | Lys | Glu | Arg | Lys | Asn |     |     |     |     |     |     |     |     |     |     |
|     |     | 370 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 188  
 <211> 108  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 188  
 Leu Ser Phe Lys Tyr Tyr Trp Ala Lys Phe Phe Trp Gly Ala Phe Phe  
 1 5 10 15  
 Phe Val Leu Val Ala Trp Lys Gly Ser Val Phe Pro Ser Leu Ala Ser  
 20 25 30  
 Val Asn Pro Leu Val Val Ala Gly Phe Ser Thr Ile Leu Phe Pro Phe  
 35 40 45  
 Ser Val Arg Leu Val Glu Asp Phe Ala Leu Lys Tyr Thr Glu Lys Glu  
 50 55 60  
 Phe Trp Val Thr Gly Phe Phe Ser Glu Thr Pro Ala Lys Thr Gly Leu  
 65 70 75 80  
 Tyr Ala Val Phe Tyr Leu Ala Cys Tyr Leu Phe Ser Ile Pro Leu Gly  
 85 90 95

Met Ile Phe Leu Phe Tyr Lys Tyr Gly Lys Ala Ser  
 100 105

<210> 189  
 <211> 498  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 189  
 Met Ser Asn Asp Asn Glu Val Pro Gly Ser Met Val Ile Val Ala Gln  
 1 5 10 15  
 Gly Pro Asp Asp Gln Tyr Ala Tyr Glu Val Pro Pro Ile Asp Ser Ala  
 20 25 30  
 Ala Val Ala Gly Asn Met Phe Gly Asp Leu Ile Gln Arg Asp Ile Tyr  
 35 40 45  
 Leu Gln Lys Asn Ile Tyr Tyr Pro Val Arg Ser Ile Val Glu Gln Gly  
 50 55 60  
 Thr Lys Glu Lys Lys Glu Ile Asn Lys Lys Val Ser Asp Gln Val Asp  
 65 70 75 80  
 Gly Leu Leu Lys Gln Ile Thr Gln Gly Lys Arg Glu Ala Thr Arg Gln  
 85 90 95  
 Glu Arg Val Asp Val Met Ser Ala Val Leu His Lys Met Glu Ser Asp  
 100 105 110  
 Leu Glu Gly Tyr Lys Lys Thr Phe Thr Lys Gly Pro Phe Ile Asp Tyr  
 115 120 125  
 Glu Lys Gln Ser Ser Leu Ser Ile Tyr Glu Ala Trp Val Lys Ile Trp  
 130 135 140  
 Glu Lys Asn Ser Trp Glu Glu Arg Lys Lys Tyr Pro Phe Gln Gln Leu  
 145 150 155 160  
 Val Arg Asp Glu Leu Glu Arg Ala Val Ala Tyr Tyr Lys Gln Asp Ser  
 165 170 175  
 Leu Ser Glu Ala Val Lys Val Leu Arg Gln Glu Leu Asn Lys Gln Lys  
 180 185 190  
 Ala Leu Lys Glu Lys Glu Asp Leu Ser Gln Leu Glu Arg Asp Tyr Lys  
 195 200 205  
 Thr Arg Lys Ala Asn Leu Glu Met Lys Val Gln Ser Glu Leu Asp Gln  
 210 215 220  
 Ala Gly Ser Ala Leu Pro Leu Val Ser Pro Thr Pro Glu Gln Trp  
 225 230 235 240  
 Leu Glu Arg Ala Thr Arg Leu Val Thr Gln Ala Ile Ala Asp Lys Lys  
 245 250 255  
 Gln Leu Gln Thr Thr Asn Asn Thr Leu Ile Lys Asn Ala Pro Thr Pro  
 260 265 270  
 Leu Glu Lys Gln Lys Ala Ile Tyr Asn Gly Glu Leu Leu Val Asp Glu  
 275 280 285  
 Ile Ala Ser Leu Gln Thr Arg Leu Asp Lys Leu Asn Ala Glu Thr Thr  
 290 295 300  
 Arg Arg Arg Thr Glu Ala Glu Arg Lys Ala Ala Glu Glu Gln Ala Leu  
 305 310 315 320  
 Gln Asp Ala Val Lys Phe Thr Ala Asp Phe Tyr Lys Glu Val Thr Glu  
 325 330 335  
 Lys Phe Gly Ala Arg Thr Ser Glu Met Ala His Gln Leu Ala Glu Gly  
 340 345 350  
 Ala Arg Gly Lys Asn Ile Arg Ser Ser Ala Glu Ala Ile Asn Ser Phe  
 355 360 365  
 Glu Lys His Lys Asp Ala Leu Asn Lys Lys Leu Ser Leu Lys Asp Arg  
 370 375 380  
 Gln Ala Ile Ala Lys Ala Phe Asp Ser Leu Asp Lys Gln Met Met Ala

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |
| Lys | Ser | Leu | Glu | Lys | Phe | Ser | Lys | Gly | Phe | Gly | Val | Val | Gly | Lys | Ala |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Ile | Asp | Ala | Ala | Ser | Leu | Tyr | Gln | Glu | Phe | Lys | Ile | Ser | Thr | Glu | Thr |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Gly | Asp | Trp | Lys | Pro | Phe | Phe | Val | Lys | Val | Glu | Thr | Leu | Ala | Ala | Gly |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Ala | Ala | Ala | Ser | Trp | Leu | Val | Gly | Ile | Ala | Phe | Ala | Thr | Ala | Thr | Ala |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Thr | Pro | Ile | Gly | Ile | Leu | Gly | Phe | Ala | Leu | Val | Met | Ala | Val | Thr | Gly |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Ala | Met | Ile | Asp | Glu | Gly | Leu | Leu | Glu | Lys | Ala | Asn | Asn | Leu | Val | Met |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Ser | Ile |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 190  
 <211> 657  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 190 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Met       | Asn | Arg | Pro | Arg | Leu | Val | Asn | Arg | Thr | Ser | Ala | Thr | Pro | Ser | Thr |
| 1         |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Leu       | Leu | Gln | Arg | Ala | Ile | Phe | Asp | Gly | Tyr | Asp | Phe | Gly | Leu | Lys | Ile |
|           |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro       | Tyr | Ile | Ala | Gly | Ser | Asn | Arg | Ala | Leu | Leu | Glu | Leu | Ser | Gly | Phe |
|           |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Phe       | Ile | Ser | Ala | Arg | Glu | His | Pro | Leu | His | Arg | Tyr | Trp | Arg | Val | Pro |
|           | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Lys       | Gly | Lys | Leu | Leu | Pro | Glu | Leu | Asp | Thr | Leu | Tyr | Asn | Arg | Leu | Ala |
| 65        |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Glu       | Leu | Ala | Gly | Gly | Leu | His | Ser | Gln | Ser | Trp | Arg | Glu | Phe | Ser | Ser |
|           |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu       | Val | Glu | Ser | Ala | Gln | Ala | Ser | Leu | Asp | Arg | Gln | Ala | Phe | Thr | Trp |
|           |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly       | Met | Leu | Leu | Arg | Ile | Ala | Pro | Leu | Ala | Glu | Gly | Gly | Val | Leu | Leu |
|           | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ser       | Gly | Glu | Phe | His | Pro | Gly | Val | Val | Ala | Val | Ala | Arg | Arg | Met | Arg |
|           | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly       | Val | Phe | Leu | Arg | Pro | Ser | Ser | Ser | Trp | Arg | Ile | Asp | Thr | Thr | Pro |
| 145       |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Glu       | Leu | Leu | Arg | Ser | Asn | Leu | Ile | Leu | Glu | Leu | Gly | Leu | Ala | Glu | Glu |
|           |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Gln       | Phe | Glu | Ile | Leu | Asp | Thr | Val | Gln | Glu | Leu | Leu | Ser | Asp | Gly | Ser |
|           |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Phe       | Ala | Pro | Ser | Thr | Glu | Leu | Pro | Ser | Met | Ser | Ile | Gly | Gly | Pro | Gln |
|           |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gln       | Glu | Pro | Ala | Ala | Pro | Ser | Leu | Glu | Asp | Glu | Ser | Ala | Ser | Asp | Ile |
|           | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Tyr       | Leu | Ala | Ala | Val | Pro | Glu | Ile | Glu | Arg | Thr | Glu | Tyr | Ser | Ser | Ala |
| 225       |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     |     | 240 |
| Asp       | Ile | Glu | Ala | Ala | Leu | Gln | Gly | Tyr | Ser | Leu | Leu | Ala | His | Gln | Pro |
|           |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Asp       | Gly | Ile | Ala | His | Leu | Leu | Gln | Arg | Thr | Ser | Ala | Leu | Leu | Ala | Asp |
|           |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Asp       | Met | Gly | Leu | Gly | Lys | Thr | Arg | Gln | Ala | Val | Ile | Ala | Ala | Ser | Ile |
|           |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |

Arg Ala Ala Gly Arg Pro Ile Leu Val Ile Thr Leu Ala Thr Leu Leu  
 290 295 300  
 Ile Asn Trp Gln Arg Glu Ile Gln Glu Val Tyr Pro Ser Ala Thr Val  
 305 310 315 320  
 Ala Ile Gln Gln Asp Thr Pro Glu Ala Gln Trp Ile Leu Val Asn Tyr  
 325 330 335  
 Glu Gln Leu Ser Pro Phe Val Ala Asn Ala Ser Arg Phe Ala Val Met  
 340 345 350  
 Val Ile Asp Glu Ala Gln Arg Met Lys Glu Pro Thr Ala Gln Cys Thr  
 355 360 365  
 Arg His Gly Phe Asp Ile Ala Ala Gln Val Pro Asn Arg Tyr Leu Leu  
 370 375 380  
 Thr Gly Thr Pro Val Leu Asn Arg Glu Thr Glu Leu His Thr Leu Leu  
 385 390 395 400  
 Arg Leu Ser Gly His Pro Ile Gly Gln Leu Pro Leu Lys Glu Phe Cys  
 405 410 415  
 Asp Arg Phe Ala Gly Asn Pro Glu Phe Arg Gln Ser Leu Arg Ala Glu  
 420 425 430  
 Leu Gly Asp Trp Met Leu Arg Arg Arg Lys Asp Val Leu Pro Ser Leu  
 435 440 445  
 Lys Gly Lys Gln Arg Gln Leu Leu Lys Val Ala Leu Ser Thr Glu Glu  
 450 455 460  
 Arg Gln Gln Tyr Asp Val Leu Arg Leu Glu Asp Arg Pro Val Phe Ala  
 465 470 475 480  
 Arg Leu Gly Ala Leu Arg Arg Tyr Leu Glu Thr Val Lys Val Arg Val  
 485 490 495  
 Ala Met Asp Leu Leu Ser Glu Leu Asp Ala Glu Asp Lys Val Ile Leu  
 500 505 510  
 Phe Cys Glu Phe Lys Pro Thr Val Ala Ala Leu Lys Glu Leu Cys Glu  
 515 520 525  
 Gln Ala Gly His Gly Cys Val Thr Leu Val Gly Asn Asp Ser Leu Thr  
 530 535 540  
 Lys Arg Gln Lys Ala Ile Asp Arg Phe Gln Gln Asp Pro Asp Cys Arg  
 545 550 555 560  
 Val Phe Ile Cys Thr Thr Ala Ala Ala Gly Thr Gly Asn Asn Leu Thr  
 565 570 575  
 Ala Ala Asn Tyr Val Phe Phe Leu Gly Leu Pro Trp Thr Pro Gly Gln  
 580 585 590  
 Gln Glu Gln Ala Glu Asp Arg Ala Tyr Arg Asn Gly Gln Leu Arg Met  
 595 600 605  
 Val Val Val Lys Ile Pro Leu Val Glu Ala Thr Ile Asp Glu Gln Leu  
 610 615 620  
 Trp Gln Leu Leu Asn Ala Lys Arg Gln Val Ala Gln Asp Leu Ile Glu  
 625 630 635 640  
 Pro Glu Gln Val Asp Gly Asn Arg Ala Leu Leu Ala Ala Ser Leu Thr  
 645 650 655  
 Gly

<210> 191  
 <211> 629  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 191  
 Val Ala Pro Leu Asp Asn Ala Pro Pro Ser Gly Pro Leu Gln Asp Pro  
 1 5 10 15  
 Ser Leu Ala Arg Tyr Ser Glu Arg Gln Leu Ala Val Ala Asn Thr Trp



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Ala Glu His Ile Ala Leu Ala His Cys Ile Asp Ser Tyr Asp Gln Ala  
500 505 510  
Ala Tyr Arg Gly Asp Cys Arg Leu Leu Ser Val Arg Glu Ala Gly Arg  
515 520 525  
Pro Leu Ala Ser Ala Glu Leu Glu Leu Arg Arg Glu His Gly Glu Pro  
530 535 540  
Ile Gly Arg Pro Trp Ser Pro Lys His Leu Ser Thr Val Gln Leu Arg  
545 550 555 560  
Glu Phe Asp Asn Ala Pro Val Pro Thr Asp Ser Pro Ala Gly Gln Ala  
565 570 575  
Tyr Arg Trp Phe Met Glu Arg Ile Arg Ser Gly Ala Ile Ala Thr Asn  
580 585 590  
Leu Asn Trp Pro Asp Met Thr Val His Met Thr Arg Phe Ala Asn Gly  
595 600 605  
Arg Trp Lys Ala Gly Leu Ala Glu Ala Thr Ala Lys Trp Leu Leu Thr  
610 615 620  
Gln Leu Glu Asp Arg  
625

<210> 192  
<211> 156  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 192  
Met Arg Lys Glu Asn Ile Ser Ala Glu Ile Thr Glu Arg Ala Phe Asp  
1 5 10 15  
Phe Phe Tyr Trp Phe Ser Arg Phe Glu Phe Ser Leu Lys Glu Asn Gly  
20 25 30  
Tyr Leu Lys Asn Tyr Lys Pro Gly Ala Arg Ala Glu Pro Gly Trp Glu  
35 40 45  
Asn Phe Val Gln Asn His Ser Asp Lys Tyr Ser Leu Ser Gln Ser Ala  
50 55 60  
Thr Ala Leu Ile Glu Gln Ser Pro Glu Gln Gln Ile Val Leu Pro Gly  
65 70 75 80  
Arg Glu Leu Gly Trp Arg Pro Val Lys Leu Asp Glu Asp Lys Ser Asp  
85 90 95  
Leu Ala Arg Val Ala Arg Leu Leu Lys Thr Val Arg Asn Asn Leu Phe  
100 105 110  
His Gly Gly Lys His Gly Gly Ala Asn Trp Asp Asn Pro Ala Arg Thr  
115 120 125  
Ile His Leu Ile Leu Leu Ser Lys Ala Ile Leu Asp Glu Phe Ala Ala  
130 135 140  
Leu Gly Asp Phe Glu Ala Asp Tyr Lys Arg Ile Tyr  
145 150 155

<210> 193  
<211> 641  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 193  
Met His Ile Val Ile Ile Glu Ala Pro Gly Lys Leu Lys Lys Leu Arg  
1 5 10 15  
Ser Leu Leu Pro Ser Ile Arg Pro Asp Val Thr Trp Gln Val Glu Ala  
20 25 30  
Thr Ala Gly His Ile Arg Asp Leu Pro Val His Gly Gln Asp Pro Gln

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ala | Leu | Leu | Glu | His | Asn | Phe | Ser | Phe | Leu | Ser | Leu | Asp | Phe | Thr |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Arg | Asn | Leu | Glu | Val | Ala | Leu | Asp | Arg | Ile | Ala | Asn | Ser | Glu | Asp | Thr |
|     | 530 |     |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |
| Tyr | Met | Asn | Val | Val | Gln | Gln | Phe | Tyr | Gln | Leu | Leu | Gln | Thr | Glu | Leu |
| 545 |     |     |     |     | 550 |     |     |     | 555 |     |     |     |     |     | 560 |
| Gln | Thr | Leu | Arg | Ala | Leu | Pro | Ser | Ala | Gln | Asp | Glu | Pro | Arg | Ala | Ser |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Ser | Thr | Ala | Ser | Ile | Ser | Ser | Ala | Pro | Thr | Ser | Asp | Phe | Leu | Cys | Gly |
|     |     | 580 |     |     |     |     | 585 |     |     |     |     |     | 590 |     |     |
| Lys | Cys | Gly | Leu | Pro | Leu | Val | His | Arg | Lys | Lys | Ala | Gly | Lys | Gly | Gly |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Phe | Asp | Phe | Trp | Gly | Cys | Ser | Gly | Tyr | Arg | Thr | Thr | Gly | Cys | Lys | Val |
| 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |     |
| Ser | Tyr | Pro | Thr | Lys | Ser | Gly | Arg | Pro | Asp | Phe | Asp | Asn | Pro | Arg | Gly |
| 625 |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     |     | 640 |
| Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 194  
 <211> 77  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 194

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Gln | Ser | Leu | Cys | Thr | Cys | Met | Pro | Thr | Pro | Ile | Val | Asn | Pro |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Lys | Glu | Leu | Arg | Leu | Cys | His | Met | Leu | Val | Gly | Arg | Thr | Phe | Pro | Ile |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Thr | Leu | Ile | Ala | Gly | Asp | His | Trp | Leu | Ser | Tyr | Asp | Gly | Ser | Ala | Trp |
|     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |     |
| Trp | Val | Asp | Ala | Asp | Glu | Pro | Ala | Thr | Glu | Asp | Glu | Val | Ala | Ala | Leu |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Leu | Val | Lys | Ala | Gly | Gly | Val | Thr | Thr | Cys | Trp | Cys | Gly |     |     |     |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     |     |

<210> 195  
 <211> 81  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 195

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ala | Arg | Ala | Ser | Glu | Ser | Glu | Ile | Ser | Thr | Ser | Thr | Arg | Cys | Ser |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Val | Ser | Lys | Arg | Ala | Thr | Asp | Thr | Asp | Lys | Leu | Asp | Arg | Arg | His | Phe |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Asn | Asp | Pro | His | Arg | Thr | Val | Arg | Ala | Ile | Gly | Ala | Glu | Ala | Ala | Arg |
|     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |     |
| Lys | Gly | Leu | Arg | Val | Phe | Asp | Cys | Pro | Tyr | Ser | His | Pro | Ala | Met | Arg |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ala | Ser | Trp | Leu | Lys | Gly | Phe | Ala | Gln | Glu | Gln | Gln | Gln | Gln | Leu | Asp |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Phe |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 196

<211> 156  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 196  
 Met Ala Thr Pro Val Phe Trp Glu Ala Asn Ile Gly Ser Ala Pro Glu  
 1 5 10 15  
 His Arg Ser Phe Pro Asn Gly Asn Asn Pro Pro Arg Gln Leu Leu Arg  
 20 25 30  
 Leu Asn Val Met Phe Asp Asn Ser Ile Pro Asp Gly Gln Gly Gly Tyr  
 35 40 45  
 Lys Asp Arg Gly Gly Phe Trp Cys Ser Val Glu Trp Trp His Gln Asp  
 50 55 60  
 Ala Gln Arg Phe Ala Glu Leu Phe Thr Lys Gly Met Arg Val Lys Val  
 65 70 75 80  
 Glu Gly Arg Ala Ile Met Asp Arg Trp Pro Asp Lys Glu Ser Gly Glu  
 85 90 95  
 Glu Val Gln Ala Leu Lys Val Glu Ala Ser Arg Ile Ser Ile Leu Pro  
 100 105 110  
 His Arg Leu Ala Glu Val Thr Leu Leu Pro Thr Gln His Gln Gln Ser  
 115 120 125  
 Arg Asn Val Pro Gln Gln Pro Ala Gln Gln Asp Ala Gln Ser Gln Gln  
 130 135 140  
 Asp Tyr Asp Ser Ala Phe Asp Asp Asp Ile Pro Met  
 145 150 155

<210> 197  
 <211> 177  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 197  
 Met Arg Gln Leu Asp Lys Asp Gln Gln Gly Ala Leu Glu Gln Ser Ala  
 1 5 10 15  
 Phe Arg Pro Leu Gln Gln Thr Ala Phe Gln Ala Leu Gln His Ser Ala  
 20 25 30  
 Ser Leu Lys Gly Leu Leu Lys Pro Phe Lys Gly Asn Arg Glu Leu Ala  
 35 40 45  
 Gln Leu Ala Glu Gln Cys Glu Ala Met Glu Gln Gly Leu Leu Glu Leu  
 50 55 60  
 Ala Gln Gly Leu Leu Ala Gln Val Arg Arg Pro Pro Phe Thr Leu Leu  
 65 70 75 80  
 Pro Thr Arg Leu Ile Glu Gln Arg Thr Ser Ala Arg Thr Thr Phe Leu  
 85 90 95  
 Arg Trp Gln His Ile Ala Ser Arg Arg Met Gly Val Gly Val Trp Thr  
 100 105 110  
 Glu Met Leu Arg Gln Asp Lys Thr Pro Glu Tyr Leu Leu Gln Asp Leu  
 115 120 125  
 Tyr Glu Met Glu Leu Gln Arg Ile Thr Leu Asn Met Gln Ile Ser Leu  
 130 135 140  
 Ile His Ser Ile Gly Lys Gln Ala Ala Glu Cys Ala Glu Lys Met Gly  
 145 150 155 160  
 Gln Ala Glu Ala Glu Phe Met Gly Arg Leu Gln Gln Ser Thr Asn His  
 165 170 175  
 His

<210> 198  
 <211> 242  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 198  
 Met Ala Glu Thr His Arg Leu Gln Ile Gly Ser Leu Arg Ser Asp Val  
 1 5 10 15  
 Ala Leu Thr Leu His Thr Tyr His Ala Ala Arg Ile Trp Thr Gly Arg  
 20 25 30  
 Gln Lys Ser Asp Ala Lys His Ser Ile Leu Gly Leu Ser Gly Phe Cys  
 35 40 45  
 Ala Tyr Val Asn Arg Met His Arg Gly Ala Ala Gln Asp Asp Pro Tyr  
 50 55 60  
 Ser Asp Trp Trp Leu Val Gln Ile Glu Glu Lys Val Glu Ser Cys Gln  
 65 70 75 80  
 Ala Ala Leu Glu Ala Ile Asp Gln Arg Leu Asp Asp Val Met Ala Lys  
 85 90 95  
 Leu Pro Ala Thr Leu Asp Ile Ser Glu Asn Leu Ser Val Thr Pro Val  
 100 105 110  
 Lys Val Pro Leu Phe Ile Ser Asn Pro Leu Gly Phe Lys Ala Val Tyr  
 115 120 125  
 Leu Leu Thr Asn Tyr Asp Glu Leu Ala Arg Arg Ile Leu Leu Ala Gln  
 130 135 140  
 His Val Gly Leu Val Gly Arg Arg Asp Met Glu Val Trp Leu Asp Glu  
 145 150 155 160  
 Gly Ala Ser Val Leu Arg Ser Leu Phe Gly Leu Ala Gln Ser Tyr Gln  
 165 170 175  
 Phe Ser Gly Ala Thr Arg Asp Asp Phe Ala Ala Asn Asn Ala Arg Ala  
 180 185 190  
 Glu Ala Ala Arg Lys Met Tyr Glu Lys Phe Gly Glu Ile Pro Gln Asp  
 195 200 205  
 Ile Leu Glu Gly Thr Arg Arg Ser Asn Phe Ala Pro Pro Ile Thr Arg  
 210 215 220  
 Gly Arg Ser Asp Gly Asp Ala Asp Asp Ala Asp Arg Val Glu Leu  
 225 230 235 240  
 Glu Asp

<210> 199  
 <211> 79  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 199  
 Met Phe Leu Ser Met Ala Pro Phe Phe Leu Val Val Leu Val Leu Ser  
 1 5 10 15  
 Ala Leu Phe Thr Asp Ala Trp Asn Asp Arg Glu Leu Arg Leu Leu Leu  
 20 25 30  
 Met Leu Ile Val Phe Gly Tyr Ser Val Thr Val Leu Thr Ile Thr Val  
 35 40 45  
 Glu Met Tyr Arg Phe Glu Met Ala Glu Lys Ala Met Trp Gly Ala Leu  
 50 55 60  
 Cys Asn Lys Ala Asn Tyr Met Asn Cys Gln Pro Asp Tyr Gln Arg  
 65 70 75

<210> 200

<211> 91  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 200  
 Met Arg Lys Ser Arg Ser Gly Val Val Phe Phe Gly Asp Ala Ala Arg  
 1 5 10 15  
 Ile Thr Leu Pro Gly Pro Asp Leu Arg Ala Ala Gly Glu Leu Gly Asp  
 20 25 30  
 Ser Thr Gly Ile Thr Pro Pro Gly Ala Asp Leu Arg Ala Ala Gly Glu  
 35 40 45  
 Leu Gly Asp Ser Thr Gly Ile Thr Leu Pro Gly Ile His Phe Gly Ile  
 50 55 60  
 Gly Gly Lys Met Gly Val Ser Gly Arg Asn Thr Ser Pro Lys Arg Gly  
 65 70 75 80  
 Ile Thr Thr His Glu Leu Lys Gln Cys Ser  
 85 90

<210> 201  
 <211> 441  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 201  
 Met Arg Leu Ser Arg Phe Pro Ile Ser Thr Leu Leu Asp Ser Ala Ser  
 1 5 10 15  
 Gly His Leu Glu Ala His Leu Tyr Lys Lys Arg Leu Ala Ala Glu Ser  
 20 25 30  
 Gly Glu Pro Leu Ala Gln Gln Tyr Ser Gly Ile Ile Phe Ser Gly Asn  
 35 40 45  
 Pro His Glu Thr Val Pro Arg Arg Leu Leu Leu Asp Lys Arg Leu Thr  
 50 55 60  
 Pro Leu Glu Arg Asn Cys Trp Gln Val Phe Arg Leu Leu Ile Asn Asp  
 65 70 75 80  
 Asp Gly Leu Thr Ala Phe Pro Thr Tyr Glu Gln Leu Arg Pro Tyr Leu  
 85 90 95  
 Gly Met Gln Pro Gly Lys Ile Ala Ser Arg Glu Thr Ile Ala Lys Ala  
 100 105 110  
 Leu Thr Val Leu Arg Leu Thr Arg Trp Leu Ser Leu Gly Arg Arg Leu  
 115 120 125  
 Arg Asn Asp Leu Asn Gly Gln Val Gln Gly Asn Val Tyr Ile Leu His  
 130 135 140  
 Asp Glu Pro Val Ser Pro Ala Glu Ala Leu Glu Leu Asp Thr Asp Tyr  
 145 150 155 160  
 Met Gln Leu Leu Ser Gln Ser Thr Gly His Gly Asn Arg Ala Ile Arg  
 165 170 175  
 Glu Ile Gly Gln Ile Ile Trp Arg Glu Phe Arg Asp Asp Pro Asp Val  
 180 185 190  
 Gly Arg Arg Leu Pro Thr His Leu Glu Lys Leu Glu Gly Arg Leu Asn  
 195 200 205  
 His Gln Gln Trp Ala Ile Asp Ser Gln Leu Glu Ala Asp Pro Ala Ala  
 210 215 220  
 Glu Phe Gly Ile Arg Thr Leu Ser Asp Leu Pro His Ser Thr Pro Ser  
 225 230 235 240  
 Ser Asp Ala Glu Leu Ser Glu Ile Ser Gly Lys Gln Cys Ala Leu Pro  
 245 250 255  
 Leu Ser Ser Asp Thr Glu Pro Arg Gln Asn Pro Pro Ser Thr Pro Leu  
 260 265 270

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Arg | Met | Pro | Asn | Ser | Tyr | Ser | Thr | Tyr | Thr | Tyr | Lys | Gln | Asp | Ser |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Val | Cys | Lys | Lys | Pro | Val | Gln | Pro | Arg | Ala | Arg | Glu | Glu | Ala | His | Pro |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Asn | Trp | Gln | Asp | Leu | Leu | His | Ala | Leu | Glu | Ala | Glu | Gln | Arg | Ile | Gln |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ala | Val | Ser | Ala | Leu | Arg | Arg | Val | Ser | Glu | Asp | Leu | Arg | Leu | Pro | Ile |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ile | Glu | Gln | Trp | Gln | His | Arg | Cys | Ala | Gly | Gly | Thr | Val | Ser | Asn | Pro |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Phe | Gly | Tyr | Leu | Met | Thr | Leu | Ile | Gln | Arg | Ala | Val | Gln | Gly | Lys | Phe |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Asn | Ala | Ser | Trp | Ala | Pro | Glu | Glu | Pro | Ala | Glu | Arg | Thr | Ile | Pro | Ala |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Thr | Glu | Arg | Pro | Ile | Arg | Ala | Pro | Ala | Pro | Ser | Ser | Pro | Ile | Ala | Pro |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Thr | Gln | Pro | Gln | Val | Gln | Pro | Arg | Gly | Asp | Thr | Arg | Thr | Gly | Ser | Glu |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Val | Leu | Ser | Arg | Leu | Lys | Asp | Leu | Ile | Arg | Pro | Arg | His | Gly | Ser | Ser |
|     |     |     | 420 |     |     |     | 425 |     |     |     |     |     | 430 |     |     |
| Val | Pro | Ser | Glu | Arg | Gly | Asp | Asp | Ser |     |     |     |     |     |     |     |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     |     |     |     |     |

<210> 202  
 <211> 255  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 202

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Lys | Ser | Thr | Ile | Asn | Glu | Ala | Val | Leu | Thr | Gln | Val | Leu | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| His | Leu | Arg | Asn | Gly | Gln | Leu | Arg | Arg | Cys | Ala | Glu | Met | Gly | Leu | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Glu | Ile | Leu | Ala | Gln | Leu | Gln | Gln | Pro | Ala | Val | Met | Ser | Ile | Leu |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Thr | Asn | Thr | Pro | Val | Ser | Trp | Val | Asp | Val | Arg | Val | Asn | Ile | Asp | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Met | Glu | Lys | Ile | Leu | Ala | Thr | Ala | Glu | Arg | Ser | Ala | Gln | Glu | Asp | Leu |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Gln | Ile | Glu | Arg | Ala | Leu | Lys | Leu | Gly | Ala | Thr | Thr | Thr | Met | Ile | Gln |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ser | Phe | Phe | Gly | Leu | Ser | Pro | Glu | Asp | Thr | Ala | Thr | Lys | Arg | Leu | Met |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Glu | Ile | His | Pro | Arg | Arg | Gly | Arg | Trp | Arg | Gln | Leu | Asp | Glu | Gln |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Glu | Arg | Gln | Ile | Trp | Phe | Arg | Trp | Glu | His | Leu | Met | Gln | Glu | Asn |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Val | Arg | Leu | Glu | Asp | Ser | Met | Glu | Leu | Leu | Asp | Ile | Ala | Met | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Thr | Glu | Glu | Ile | Asn | Ala | Gly | Ile | Glu | Gln | Asp | Ser | Pro | Glu | Phe |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ile | Ser | Leu | Ala | Ile | Val | Trp | Ser | Leu | Ile | Gln | Ser | Trp | Leu | Lys | Asp |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Leu | Tyr | Pro | Ser | Gly | Lys | Ser | Ser | Gln | Ser | Gln | Ala | Gly | Leu | Gln |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Ser | Gln | Ser | Thr | Leu | Tyr | Leu | Ala | Ser | Val | Ser | Ser | His | Leu | Pro |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| His | Ser | Ala | Pro | Ser | Ala | Thr | Thr | Gln | Val | Asn | Ala | Glu | Thr | Glu | Arg |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 |     | 230 |     | 235 |     | 240 |     |     |     |     |     |     |     |     |
| Gln | Gln | Leu | Leu | Asn | Leu | Val | Gln | Ser | Glu | Gly | Asp | Thr | Ala | Pro |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |

<210> 203  
 <211> 579  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 203

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Met | Ala | Lys | Ile | Asn | Pro | Gln | Asp | Leu | Lys | Asp | Arg | Leu | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Pro | Gly | Phe | Thr | Ala | Pro | Pro | Lys | Val | Leu | Glu | Gln | Leu | Ser | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Ile | Ser | Asp | Thr | Pro | Met | Arg | Leu | Thr | Leu | His | Asp | Val | Leu | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Trp | His | Asp | Asn | Pro | Arg | Thr | Thr | Arg | Asn | Pro | Lys | Tyr | Asp | Glu | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Glu | Ser | Ile | Arg | His | Arg | Gly | Leu | Asp | Thr | Pro | Pro | Pro | Val | Thr |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Arg | Arg | Pro | Gly | Glu | Asp | Lys | Tyr | Arg | Ile | Arg | Asn | Gly | Gly | Asn | Thr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Leu | Glu | Ile | Leu | Asn | Asp | Leu | Tyr | Lys | Glu | Thr | Gly | Asp | Glu | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Tyr | Phe | Ser | Phe | Asp | Cys | Leu | Phe | Lys | Pro | Trp | Asp | Lys | Gln | Arg | Gly |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Glu | Ile | Ile | Ala | Leu | Thr | Gly | His | Leu | Ala | Glu | Asn | Asp | Leu | Lys | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Leu | Lys | Phe | Ile | Glu | Arg | Ala | Val | Gly | Val | Gln | Lys | Ala | Lys | Phe |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Leu | Tyr | Glu | Gln | Glu | Asn | Gly | Gly | Glu | Ser | Ile | Ser | Gln | Arg | Glu | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ala | Arg | Arg | Leu | Lys | Ala | Asp | Gly | Tyr | Pro | Val | Ser | Gln | Ser | His | Ile |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Lys | Met | Leu | Asp | Thr | Ile | Glu | Val | Leu | Ala | Pro | Ala | Ile | Pro | Val |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Met | Leu | Tyr | Ser | Gly | Leu | Gly | Lys | Pro | Gln | Ile | Glu | Lys | Leu | Leu | Ser |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Leu | Arg | Lys | Ser | Ala | Ser | Ser | Cys | Trp | Ala | Arg | Leu | Tyr | Ala | Gly | Glu |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Gly | Val | Asp | Phe | Glu | Met | Leu | Phe | Gln | Asp | Thr | Leu | Ala | Ile | Phe | Asp |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Ser | Ser | Pro | Asp | Glu | Phe | Ile | Phe | Glu | Arg | Phe | Gln | Asp | Glu | Leu | Ile |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Asp | Gln | Met | Lys | Arg | Pro | Leu | Gly | Leu | Arg | Tyr | Asp | Gln | Ile | Leu | Leu |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Glu | Ile | Thr | Asn | Gly | Gln | Gln | Glu | Gln | Arg | Arg | Gly | Thr | Leu | Val | Asp |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
| Leu | Pro | Thr | Pro | Ala | Ala | Pro | Pro | Gln | Leu | Pro | Pro | Ile | Gly | Gln | Glu |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |     |
| Asn | Pro | Ala | Ala | Ser | Ser | Thr | Gly | Gln | Ala | Gln | Thr | Gln | Ser | Pro | Ala |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Ala | Asp | Pro | Gln | Thr | Ser | Arg | Thr | Arg | Ser | Asn | Pro | Gly | Asn | Pro | Leu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Pro | Pro | Pro | Ala | Pro | Pro | Pro | Pro | Val | Gln | Gln | Lys | Gln | Leu | Pro | Asp |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Glu | Glu | Arg | Ala | Ala | Val | Leu | Ala | Gly | His | Ile | Val | Ser | Pro | Val | Ser |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |

Thr Lys Ile Gln Gln Thr Arg Gln Arg Leu Ala Gly Leu Glu Gly Glu  
 385 390 395 400  
 His Leu Pro Val Phe Asp Glu Thr Ala Leu Gln Ala Ile Pro Val Gln  
 405 410 415  
 Val Gly Gly Leu His Pro Ile Thr Asp Leu Trp Tyr Ile Glu Arg Ser  
 420 425 430  
 Ile Asp Thr Pro Glu Ile Leu Arg Gln His Ile Ala Asp Leu Ala Glu  
 435 440 445  
 Glu Ile Ala Leu His Val Gly Ala Pro Gly Glu Ile Val Arg Ile Gln  
 450 455 460  
 Gly Gly Val Gly Tyr Thr Tyr Arg Glu Pro Asn Glu Asp His Glu Ile  
 465 470 475 480  
 Thr Asp Ser Ala Leu His Leu Met Thr Leu Leu Gln Ala Val Ser Gly  
 485 490 495  
 Gln Val Gln Val Val Leu Asn Thr His Asp Gln Gln Thr Cys Arg Asp  
 500 505 510  
 Ala Leu Gly Glu Phe Gln Phe Ser Ala Gly Leu Ala Gln Leu Leu Leu  
 515 520 525  
 Gly Gln Pro Thr Thr Ser Asp Lys Pro Ser Cys Gln Ala Gly Arg Leu  
 530 535 540  
 Asn Asp Glu Ala Leu Val Lys Leu Phe Arg Ile Ile Arg Leu Ala Arg  
 545 550 555 560  
 Arg Leu Val Asp Leu Glu Leu Pro Pro Ala Ala Ser Glu Gln Ala Ala  
 565 570 575  
 Thr Asp Gln

<210> 204  
 <211> 84  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 204  
 Met Thr Met Ala Arg Glu Thr Glu Asp Lys Phe Val Val Arg Met Pro  
 1 5 10 15  
 Leu Gly Leu Arg Asp Gln Leu Lys Gln Lys Ala Ala Asp Asn His Arg  
 20 25 30  
 Ser Ala Asn Ser Glu Ile Val Tyr Arg Leu Glu Arg Ser Asn Ala Leu  
 35 40 45  
 Glu Glu Glu Leu Ala Arg Ala Asn Arg Met Val Asp Glu Leu Phe Ala  
 50 55 60  
 Lys Asn Gln Arg Leu Gln Ala Glu Leu Ala Ala Ala Asn Thr Pro Gln  
 65 70 75 80  
 Val Ala Glu Ala

<210> 205  
 <211> 338  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 205  
 Met Pro Ile Lys His Ala Ile Val His Leu Ile Glu Lys Lys Pro Asp  
 1 5 10 15  
 Gly Thr Pro Ala Val Leu His Ala Arg Asp Ala Glu Leu Gly Asp Ser  
 20 25 30  
 Gln Ala Ile Glu Asn Leu Leu Ala Asp Leu Asn Glu Ser Tyr Asn Ala



<210> 207  
 <211> 164  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 207  
 Met Pro Asp Val Thr Ala Tyr Arg Pro Leu Glu His Phe Gln Lys Val  
 1 5 10 15  
 Glu Leu Met Leu Glu Leu Lys Leu Arg Glu Gly Pro Ser Trp Ile Cys  
 20 25 30  
 Leu Asn Cys Gly Tyr His Leu Asp Gly Ser Gly Ala Gln Pro Cys Pro  
 35 40 45  
 Asp Cys Gly Lys Ser Arg Tyr Trp Thr Ser Gly Trp Ser Val Gly Arg  
 50 55 60  
 Gly His Arg Phe Ser Ala Ala Arg Glu Glu Trp Glu Asn Arg Leu Arg  
 65 70 75 80  
 Thr Arg Ser Arg Ser Pro Val Ala Ser Thr Ala Pro Val Ala Thr Asp  
 85 90 95  
 Asp Val Cys Thr Gln Leu Arg Thr Glu Val Arg Met Leu Arg Ser Ala  
 100 105 110  
 His Asp Asp Leu Ala Cys Ser Arg Gln Ser Asp Arg Arg Ser Leu Gln  
 115 120 125  
 Ala Leu Val Lys Arg Leu Leu Asp Ala Ala Ala Thr Asp Ser Leu Pro  
 130 135 140  
 Arg Ser Leu Ala Glu Met Glu Thr Trp Leu Gln Leu Asn Ser Glu Glu  
 145 150 155 160  
 Thr Thr Asn Ala

<210> 208  
 <211> 85  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 208  
 Met Lys Ala Ser Gln Thr Tyr Gln Cys Ile Val Lys Phe Asp Gly Ala  
 1 5 10 15  
 Gly Phe Trp Thr Asn Thr Ile Gln Lys Gln Arg Ala Thr Cys Thr Trp  
 20 25 30  
 Ser Asp Lys Val Ala Ala Ser Arg Leu Ala Glu Arg Leu Phe Gly Glu  
 35 40 45  
 Asp Asn Ala Tyr Ile Thr Arg Met Pro Val Gln Ala Gly Asp His Glu  
 50 55 60  
 Lys Arg Ile Glu Ser Arg Trp Ala Leu Ser Cys Arg Asn Pro Lys Glu  
 65 70 75 80  
 Val Ala Arg Asp Ala  
 85

<210> 209  
 <211> 175  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 209  
 Met Asn Thr Glu Ala Arg Phe Pro Ser Ile His Ala Ser Ala Ala Phe  
 1 5 10 15  
 Thr Asp Ser Ala Val Val His Ala Asn His Val Gly Val Asn Pro Ile



<210> 211  
 <211> 233  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 211  
 Met Asp Lys Gln Lys Val Leu Ala Lys Val Glu Lys Leu Met Ala Leu  
 1 5 10 15  
 Ala Asn Ala Lys Gly Ala Thr Pro Asn Glu Ala Glu Thr Ala Leu Arg  
 20 25 30  
 Gln Ala Ala Ile Leu Lys Arg Gln Phe Asp Leu Ser Asp Ala Glu Ile  
 35 40 45  
 Ser Ala His Thr Val Glu Thr Ala Cys Val Pro Thr Arg Thr Arg Arg  
 50 55 60  
 Ser Pro Ala Pro Trp Leu His Glu Leu Ala Gly Ile Cys Ala Ser Ser  
 65 70 75 80  
 Phe Gly Cys Asp Tyr Leu Ala Ala Tyr Ala Met Pro Ala Gly Trp Thr  
 85 90 95  
 Phe Lys Phe Met Gly Arg Gly Ile Gly Pro Glu Leu Ala Ala His Ala  
 100 105 110  
 Tyr Ser Thr Leu His His Gln Leu Val Ala Ala Arg Ser Ala His Val  
 115 120 125  
 Ala Gln Gln Lys Arg Cys Lys Leu Ser Thr Lys Arg Arg Arg Ser Lys  
 130 135 140  
 Leu Phe Val Glu Gly Trp Leu Leu Ala Val Arg Ser Leu Val Arg Glu  
 145 150 155 160  
 Phe Ala Gly Arg Pro Asp Glu Ser Thr Gln Ala Ala Ile Lys Ala Tyr  
 165 170 175  
 Leu Glu Leu His His Pro Ala Leu Lys Tyr Leu Glu Pro Ala Ala Leu  
 180 185 190  
 Thr Lys Ala Leu Ala Tyr Asp Gln Ala Ser Leu Gln Ala Gly Trp Glu  
 195 200 205  
 His Gly Lys Asn Thr Arg Leu His Arg Gly Val Ser Arg Arg Val Gln  
 210 215 220  
 Gly Ala Leu Glu Gln Gly Gly Ser Gln  
 225 230

<210> 212  
 <211> 228  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 212  
 Met Ser Asp Pro Lys Leu Lys Pro Cys Pro Leu Cys Gly Ser Thr Asn  
 1 5 10 15  
 Ile Arg Met Leu Glu Pro Glu Leu Leu Asp Thr Asp Ala Trp Asn Cys  
 20 25 30  
 Ala Ile Glu Cys Leu Asp Cys Gln Val His Ile Gly Pro Ser Tyr Cys  
 35 40 45  
 Glu Pro Asp Pro Val Thr Ala Arg Tyr Ser Ala Gln Ile Asp Trp Asn  
 50 55 60  
 Arg Arg Pro Ser Ala Lys Asn His Ala Asp Glu Arg Glu Gln Phe Leu  
 65 70 75 80  
 Met Ala Asn Leu Leu Ala Ala Leu Glu Val Ala Leu Gly Asp Val Ala  
 85 90 95  
 Ala Leu Ala Ile Val Asp Arg Val Arg Gln Ala Thr Asp Arg Ile Tyr  
 100 105 110  
 Pro Thr Ser Asn Leu Ser Pro Val Pro Gln Ala Trp Leu Asp Val Gln



Leu Leu Gln Asp Ala Ala Arg Leu Leu Asp Ser Val Asn Lys Gln Ile  
 50 55 60  
 Glu His Ala Lys Glu Lys Arg Asp Arg Tyr Glu Lys Lys Ala Lys Lys  
 65 70 75 80  
 Arg Arg Glu Leu Arg Glu Arg Leu Ala Lys Gln Leu Val Ala Ser Asn  
 85 90 95  
 Tyr Pro Leu Pro Gly Asn Thr Leu Glu Asp Arg Leu Glu Ile Leu Gln  
 100 105 110  
 Ile Ala Leu Ile Tyr Asn Arg Ala Arg Val Phe Asp His Leu Tyr Ser  
 115 120 125  
 Thr His Gln Leu His Ser Lys Leu Lys Arg Trp Leu Glu Arg Pro Lys  
 130 135 140  
 Gln Leu Ile Gly Trp Arg Ser Glu Ala Glu Tyr Phe Ala Ser Gln Val  
 145 150 155 160  
 Gly Ser Leu Arg Cys Asp Phe Ile Ser His Leu Thr Asn Glu Ile Ala  
 165 170 175  
 Tyr Asp Asp Gly Ser Glu Val Glu Glu Arg Leu Arg Val Ile Lys Gln  
 180 185 190  
 Lys Val Ala Asp Cys Thr Ala Gln Ile Ala Leu Thr Ser Glu Glu Gln  
 195 200 205  
 Glu Thr Leu Arg Leu Trp Thr Asp Ala Leu Gln Ser Ala Pro Glu Gly  
 210 215 220  
 Leu Ile  
 225

<210> 215  
 <211> 309  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 215  
 Met Asn Ala Lys Ala Thr Ser Val Val Ser Thr Lys Gly Gly Val Gly  
 1 5 10 15  
 Lys Ser Thr Thr Ala Ala Asn Leu Gly Ala Phe Cys Ala Asp Ala Gly  
 20 25 30  
 Ile Arg Thr Leu Leu Ile Asp Leu Asp Pro Val Gln Pro Ser Leu Ser  
 35 40 45  
 Ser Tyr Tyr Glu Leu Pro Glu Val Ala Gln Gly Gly Ile Tyr Asp Leu  
 50 55 60  
 Leu Ala Ala Asn Ile Thr Asp Pro Ala Arg Ile Ile Ser Arg Thr Ile  
 65 70 75 80  
 Ile Pro Asn Leu Asp Val Val Ile Ser Asn Asp Gln Asn Asn Gln Leu  
 85 90 95  
 Asn Asn Leu Leu Leu Gln Ala Pro Asp Gly Arg Leu Arg Leu Ala Asn  
 100 105 110  
 Leu Met Pro Ala Leu Lys Glu Gly Tyr Asp Leu Val Leu Ile Asp Thr  
 115 120 125  
 Gln Gly Ala Arg Ser Ala Leu Leu Glu Met Val Val Leu Ala Ser Asp  
 130 135 140  
 Leu Val Val Ser Pro Leu Gln Pro Asn Met Leu Thr Ala Arg Glu Phe  
 145 150 155 160  
 Asn Arg Gly Thr Met Gln Met Leu Asp Gly Leu Arg Pro Tyr Glu Arg  
 165 170 175  
 Leu Gly Met Arg Ile Pro Asn Val Gln Ile Val Ile Asn Cys Leu Asp  
 180 185 190  
 Gln Thr Asn Asp Ser Arg Ala Ile His Glu Asn Val Arg Ala Ile Phe  
 195 200 205  
 Asp Glu His Gln Asp Ile Ser Val Leu Glu Thr Thr Val Pro Asp Ala



|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Val Val Phe Arg Asn Ala Ala Ser Arg Gly Leu Pro Ala His Arg Leu |     |     |
| 225   | 230 | 235 |
| Glu Thr Arg Gln Pro Ser Asn Arg Thr Ser Ala Pro Ala Leu Glu Ile |     | 240 |
|   | 245 | 250 |
| Ile Arg Asn Leu Ala Ile Glu Val Phe Pro Glu Trp Thr Asp Arg Phe |     | 255 |
|   | 260 | 265 |
| Leu Ala Leu Thr Pro Gly Gly Gly Cys Ser Thr Gly Gln Gly Arg Ala |     | 270 |
|   | 275 | 280 |
| Leu Thr Trp Arg Arg Leu Leu Ser Pro Lys Pro Ala Thr Ser Thr Arg |     | 285 |
|   | 290 | 295 |
| Asn Leu Cys Trp Asn   |     | 300 |
| 305   |     |     |

<210> 216  
 <211> 426  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|   |
|---|
| <400> 216   |
| Met Thr Pro Gln Gln Leu Thr Glu Glu Tyr Ile Phe Ala His Asp Leu |
| 1 5 10 15   |
| Arg Glu Ala Ser Ala Lys Ile Tyr Arg Ala Ala Thr Lys Ala Leu Leu |
| 20 25 30  |
| Lys His Phe Gly Pro Thr Ala Thr Val Gln Glu Val Asp His Arg Ser |
| 35 40 45  |
| Val Leu Gly Trp Arg Arg Lys Val Leu Glu Gln Gly Leu Ser Lys Arg |
| 50 55 60  |
| Ser Trp Asn Thr Tyr Ser Asn His Leu Arg Thr Ile Trp Gly Tyr Ala |
| 65 70 75 80   |
| Ile Glu His Glu Leu Val Thr His Ser Gln Val Asn Pro Phe Arg Lys |
| 85 90 95  |
| Thr Thr Val Ile Pro Pro Arg Arg Ala Ser Lys Thr Val Ala Ala Glu |
| 100 105 110   |
| Ala Ile Leu Arg Ala Arg Asn Trp Leu Asn Met Gln Val Gly Ala Glu |
| 115 120 125   |
| Arg Cys Thr Gly Asp Arg Ala Arg Ile Thr Pro Ala Trp Phe Trp Leu |
| 130 135 140   |
| Cys Thr Phe Glu Val Phe Tyr Phe Thr Gly Ile Arg Leu Asn Ala Leu |
| 145 150 155 160   |
| Leu Cys Ile Arg Lys Arg Asp Ile Asp Trp Glu Asn Gln Leu Ile Leu |
| 165 170 175   |
| Ile Arg Gly Glu Thr Glu Lys Thr His Lys Glu Phe Val Val Pro Ile |
| 180 185 190   |
| Thr Glu Gly Leu Val Pro His Leu Ser Arg Leu Leu Gln Glu Ala Asp |
| 195 200 205   |
| Arg Ala Gly Phe Ala Asp Asp Gln Leu Phe Asn Val Asn Arg Phe     |
| 210 215 220   |
| Ser Pro His Tyr Lys Ser Lys Val Met Asn Ser Asp Gln Val Glu Ala |
| 225 230 235 240   |
| Met Tyr Arg Lys Leu Thr Glu Lys Val Gly Val Arg Met Thr Pro His |
| 245 250 255   |
| Arg Phe Arg His Thr Leu Ala Thr Asp Leu Met Lys Ala Pro Glu Arg |
| 260 265 270   |
| Asn Ile His Leu Thr Lys Cys Leu Leu Asn His Ser Asn Ile Gln Thr |
| 275 280 285   |
| Thr Met Ser Tyr Ile Glu Ala Asp Tyr Asp His Met Arg Ala Val Leu |
| 290 295 300   |

His Ala Arg Ser Leu Ala Gln Gly Ala Leu Glu Asn Val Arg Lys Val  
 305 310 315 320  
 Asp Tyr Ser Gly Ser Pro Gln Ala Ser Ala Lys Pro Lys Pro Cys Gly  
 325 330 335  
 Gln Pro Leu Ala Arg Met Gly Glu Ala Pro Pro Gln Glu Ala Arg Thr  
 340 345 350  
 Glu Pro Ala Glu Pro Arg Glu His Thr Pro Gly Thr Gly Ile Gln Gly  
 355 360 365  
 Asp Ala Thr Ala Trp Glu Glu Ala Leu Pro Gln Pro Pro Asp Thr Phe  
 370 375 380  
 Glu Gln Ser Val Leu Phe Thr Leu Met Ala Gln His Leu Ser Asn Arg  
 385 390 395 400  
 Ala Ala Thr Ala Ser Ala Ala Ser Thr Ala Thr Ser Gly Ser Gly Gly  
 405 410 415  
 Trp Gly Ser Thr Ala Arg Ser Ser Leu Ala  
 420 425

<210> 217  
 <211> 125  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 217  
 Met Lys Ser Gly Ile Ala Thr Arg Arg Leu Phe Ile Asn Asp Thr Lys  
 1 5 10 15  
 Ala Leu Val His Thr Val Asp Gly Thr Ala Met Leu Val Thr Pro Gly  
 20 25 30  
 Ile Phe Lys Arg Tyr Val Gln Glu His Pro Glu Val Glu Lys Leu Ala  
 35 40 45  
 Gln Ala Lys Glu Thr Ala Gly Trp Lys Leu Val Gln Arg Ala Phe Glu  
 50 55 60  
 Lys Gln Gly Leu His Arg Lys Thr Ser Lys Asn Leu Asn Ile Trp Thr  
 65 70 75 80  
 Ile Lys Val Ser Gly Pro Arg Lys Thr Lys Glu Leu Lys Ala Tyr Leu  
 85 90 95  
 Leu Gln Asp Pro Lys Leu Leu Phe Pro Val Gln Pro Leu Asp Asn Pro  
 100 105 110  
 Ser Leu Thr Val Ile Thr Asp Ala Glu Gly Gly Val Glu  
 115 120 125

<210> 218  
 <211> 280  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 218  
 Ile Asp Gln Leu Ser Glu Gln Glu Ser Val Glu Val Val Cys Ser Ala  
 1 5 10 15  
 Phe Asp Val Ala Arg Ser Cys Tyr Tyr Val His Arg Leu Arg Arg Arg  
 20 25 30  
 Arg Val Asp Ala Arg Arg Val Ala Leu Arg Ser Gln Val Asn Gln Leu  
 35 40 45  
 Phe Ser Gln Ser Arg Gly Ser Ala Gly Ser Arg Ser Ile Leu Gly Met  
 50 55 60  
 Leu Arg Glu Glu Gly Val Thr Ile Gly Arg Phe Arg Val Arg Arg Leu  
 65 70 75 80  
 Met Arg Glu Leu Gly Leu Val Ser Lys Gln Pro Gly Ser His Ala Tyr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Lys | Gln | Ala | Thr | Val | Glu | Arg | Pro | Asp | Ile | Pro | Asn | Arg | Leu | Asn | Arg |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Glu | Phe | Ala | Thr | Glu | His | Pro | Ile | Gln | Val | Trp | Cys | Gly | Asp | Ile | Thr |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Tyr | Val | Trp | Ala | Gln | Gly | Arg | Trp | His | Tyr | Leu | Ala | Ala | Val | Leu | Asp |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Leu | Leu | Ile | Gly | Trp | Ala | Phe | Ser | Ala | Lys | Pro | Asp | Ala | Glu | Leu | Val |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Ile | Lys | Ala | Leu | Asp | Met | Ala | Tyr | Glu | Gln | Arg | Gly | Arg | Pro | Gln | Gln |  |  |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Val | Leu | Phe | His | Ser | Asp | Gln | Gly | Ser | Gln | Tyr | Ala | Ser | Arg | Leu | Phe |  |  |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Arg | Gln | Arg | Leu | Trp | Arg | Tyr | Arg | Met | Gln | Gln | Ser | Met | Ser | Arg | Arg |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Gly | Asn | Cys | Trp | Asp | Asn | Ser | Pro | Met | Glu | Arg | Leu | Phe | Arg | Ser | Leu |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Lys | Ser | Glu | Trp | Val | Pro | Ser | Thr | Gly | Tyr | Leu | Thr | Ala | Gln | Glu | Ala |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gln | Arg | Asp | Ile | Ser | His | Tyr | Leu | Met | His | Arg | Tyr | Asn | Trp | Ile | Arg |  |  |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Pro | His | Gln | Phe | Asn | Asp | Gly | Leu | Pro | Pro | Ala | Val | Ala | Glu | Glu | Lys |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Leu | Asn | Pro | Leu | Ser | Gly | Met | Gly |     |     |     |     |     |     |     |     |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     |     |     |     |     |  |  |

<210> 219  
 <211> 102  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 219

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Ser | Lys | Gln | Arg | Arg | Thr | Phe | Ser | Ala | Glu | Phe | Lys | Arg | Glu | Ala |  |  |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Ala | Ala | Leu | Val | Leu | Asp | Gln | Gly | Tyr | Ser | His | Ile | Asp | Ala | Cys | Arg |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |  |  |
| Ser | Leu | Gly | Val | Val | Asp | Ser | Ala | Leu | Arg | Arg | Trp | Val | Lys | Gln | Leu |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Glu | Ala | Glu | Arg | Gln | Gly | Val | Thr | Pro | Lys | Ser | Lys | Ala | Leu | Thr | Pro |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Glu | Gln | Gln | Lys | Ile | Gln | Glu | Leu | Glu | Ala | Arg | Ile | Asn | Arg | Leu | Glu |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Arg | Glu | Lys | Ala | Ile | Leu | Lys | Lys | Ala | Thr | Ala | Leu | Leu | Met | Ser | Asp |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Glu | Leu | Asp | Arg | Thr | Arg |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 100 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 220  
 <211> 94  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 220

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Leu | Tyr | Phe | Ser | Cys | Ser | Met | Lys | Met | Gly | Gly | Trp | Val | Gly | Tyr |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Arg | Tyr | Phe | Ser | Leu | Phe | Ser | Leu | Ile | Ala | Leu | Ile | Tyr | Gly | Cys | Val |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Gly | Gly | Gly | Ser | Asp | Glu | Ile | Gly | Gln | His | Cys | Phe | Glu | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Gln | Lys | Leu | Ser | Gly | Val | Asn | Asp | Asn | Glu | Glu | Gly | Ser | Val | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Leu | Asn | Arg | Leu | Asn | Cys | Asp | Pro | Ile | Glu | Gly | Arg | Val | Leu | Glu | Ser |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Glu | Lys | Leu | Ile | Arg | Lys | Pro | Pro | Asn | Glu | Leu | Gly | Ile | His |     |     |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     |     |     |

<210> 221  
 <211> 207  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Lys | Ser | Leu | Val | Met | Ser | Ala | Val | Leu | Leu | Val | Ala | Ser | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Ala | Cys | Ala | Asp | Glu | Gly | Ser | Asn | Asp | Gly | Ser | Glu | Ile | Cys | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Gln | Gly | Gly | Val | Glu | Ile | Thr | Ser | Leu | Gly | Glu | Val | Ser | Lys | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Asp | Val | Glu | Asp | Val | Val | Val | Cys | Ser | Ile | Leu | Pro | Ser | Asn | Met |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Ser | Ser | Gln | Arg | Ala | Pro | Thr | Leu | Pro | Pro | Leu | Gln | Arg | Met | Ile |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Ile | Ser | Ala | Met | Pro | Ser | Pro | Gly | Thr | Val | Thr | Val | Ser | Ala | Ser | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Arg | Lys | Phe | Thr | Thr | Ser | Cys | Arg | Ala | Asn | Leu | Tyr | Ala | Pro | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Tyr | Ala | Asn | Phe | Tyr | Pro | Asp | Gly | Val | Ser | Arg | Gly | Thr | Ser | Asp | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Cys | Val | Gly | Tyr | Asn | Thr | Pro | Gly | Asn | Ser | Ser | Gln | Gly | Cys | Asn |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Ser | Trp | Asp | Gly | Pro | Thr | Asp | Ile | Gln | Leu | Gly | Val | Glu | Pro | Tyr |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Gly | Gly | Ser | Val | Val | Val | Asn | Tyr | Ser | Cys | Thr | Ala | Phe | Lys | Thr | Thr |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ile | Pro | Val | Ile | Met | Ser | Tyr | Ser | Tyr | Arg | Asp | Gly | Arg | Ala | Val | Tyr |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Glu | Val | Gln | Asn | Val | Ser | Gly | Ile | Ile | Asn | Val | Val | Leu | Asn |     |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |

<210> 222  
 <211> 105  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Ile | Lys | Ile | Leu | Arg | Ile | Ile | Phe | Leu | Leu | Pro | Ile | Val | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Ala | Gln | Gln | Ala | Ala | Ala | Ser | Pro | Pro | Ala | Glu | Ser | His | Ser | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Ser | Glu | Ser | Ser | Cys | Ile | Asp | Val | Gln | Val | Asn | Gly | Ala | Arg | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Ser | Tyr | Asn | Cys | Met | Ala | Gln | Gln | Met | Thr | Pro | Pro | Lys | Glu | Asp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Arg | Arg | Arg | Asn | Pro | Thr | Leu | Asn | Ser | Thr | Leu | Ala | Ser | Glu | Arg |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     | 70  |     |     |     | 75  |     | 80  |     |     |     |     |     |
| Ala | Thr | Arg | Leu | Pro | Pro | Thr | Gln | Thr | Gly | Leu | Phe | Thr | Ser | Leu | His |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gln | Arg | Ala | Ile | Ser | Asn | Ser | Lys | Asp |     |     |     |     |     |     |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     |     |     |

<210> 223  
 <211> 67  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 223

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ser | Ser | Thr | Lys | Ser | Lys | Pro | Ile | Ala | Arg | Gly | Arg | Gly | Gly | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Gly | Glu | Val | Met | Lys | Arg | Cys | Gly | Leu | Val | Pro | Val | Arg | Gly | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Arg | Gln | Gln | Thr | Gly | Ser | Leu | Ala | Met | Gly | Gln | Gln | Glu | Thr | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Pro | Ser | Val | Ser | Arg | Thr | Ala | Ala | Cys | Ser | Val | Arg | Gly | Asp | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Met | Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 65  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 224  
 <211> 72  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 224

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Arg | Leu | Leu | Glu | Ser | Ile | Tyr | Ile | Asn | Ala | Arg | Pro | Ala | Met |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Leu | Arg | Leu | Ser | Leu | Thr | Ser | Ser | Gly | Arg | Lys | Arg | Met | Val | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Val | Asp | Gly | Glu | Glu | Val | Glu | Val | Leu | Pro | Gly | Glu | Val | Gln | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Leu | Glu | Ala | Gln | Lys | Arg | Asp | Val | Gly | Ile | Leu | Ala | Asp | Phe | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Lys | Ser | Leu | Val | Ala | Arg | Arg |     |     |     |     |     |     |     |     |
| 65  |     |     |     |     | 70  |     |     |     |     |     |     |     |     |     |     |

<210> 225  
 <211> 149  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 225

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Cys | His | Val | Arg | Pro | Ala | Thr | Ser | Arg | Asp | Ala | Ala | Ala | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Cys | Val | Val | Ile | Ala | Ala | Leu | Arg | Glu | Ser | Asn | Ser | Gln | Asp | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Pro | Asp | Val | Ile | Ala | Gln | Val | Glu | Gln | Ser | Phe | Ser | Pro | Glu | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Thr | Thr | Gln | Leu | Thr | Lys | Arg | Arg | Val | Phe | Val | Ala | Leu | Leu | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Asn | Ile | Ile | Gly | Thr | Ala | Gly | Leu | Asp | Gly | Asp | Val | Val | Arg | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Phe | Val | Asp | Pro | Ala | His | Gln | Lys | Gly | Gly | Ile | Gly | Arg | His | Leu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Met | Asp | Val | Ile | His | Thr | Thr | Ala | Ala | Ser | Ala | Gly | Val | Gly | Ala | Val |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Val | Pro | Ser | Ser | Ile | Thr | Ala | Glu | Arg | Phe | Tyr | Thr | Ala | Leu | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Tyr | Gln | Lys | Ile | Arg | Asp | Glu | Phe | His | Gly | Ala | Glu | Arg | Thr | Ile | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Met | Glu | Lys | Arg | Leu |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 226

<211> 366

<212> PRT

<213> Pseudomonas aeruginosa

<400> 226

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Trp | Leu | Thr | Cys | Thr | Pro | Gln | Gln | Asp | Val | Gln | Ala | Ala | Leu | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Ala | Ser | Ile | Leu | Leu | Gly | Gln | Phe | His | Gln | Leu | Gly | Val | Gln | Leu |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Gly | Arg | Tyr | Thr | Ser | Leu | Asp | Pro | Leu | Glu | Glu | Val | Glu | Lys | Asn | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Ala | Leu | Pro | Ser | Pro | Ala | Trp | Lys | Thr | Asp | Ser | Thr | Lys | Phe | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Val | Val | Leu | Lys | Ser | Gly | Gly | Arg | Ser | Ile | Asp | Lys | Gly | Ile | Pro | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Gly | Leu | Leu | Ala | His | Val | Met | Val | Ala | Lys | Phe | Ala | Asp | His | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro | Leu | Tyr | Arg | Gln | Glu | Lys | Ile | Phe | Gly | Arg | Ala | Gly | Leu | Ala | Ile |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Arg | Ser | Thr | Leu | Ala | Gln | Trp | Val | Gly | Gln | Thr | Gly | Val | Arg | Leu |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Gln | Pro | Leu | Val | Asp | Ala | Leu | Arg | Glu | Ala | Val | Leu | Asn | Gln | Gly | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ile | His | Ala | Asp | Glu | Thr | Pro | Val | Gln | Met | Leu | Ala | Pro | Gly | Glu | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Lys | Thr | His | Arg | Ala | Tyr | Val | Trp | Ala | Tyr | Ser | Thr | Thr | Pro | Phe | Ser |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly | Leu | Lys | Ala | Val | Val | Tyr | Asp | Phe | Ser | Pro | Ser | Arg | Ala | Gly | Glu |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| His | Ala | Arg | Asn | Phe | Leu | Gly | Asp | Trp | Asn | Gly | Lys | Leu | Val | Cys | Asp |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Asp | Phe | Ala | Gly | Tyr | Lys | Ala | Gly | Phe | Glu | Gln | Gly | Ile | Thr | Glu | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gly | Cys | Met | Ala | His | Ala | Arg | Arg | Lys | Phe | Phe | Asp | Leu | His | Val | Ala |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Asn | Lys | Ser | Gln | Leu | Ala | Glu | Gln | Ala | Leu | His | Ser | Ile | Ser | Gly | Leu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Tyr | Glu | Val | Glu | Arg | Gln | Ala | Arg | Asp | Met | Ser | Asp | Glu | Glu | Arg | Trp |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Arg | Ile | Arg | Gln | Glu | Leu | Ala | Val | Pro | Ile | Leu | Lys | Lys | Leu | His | Asp |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Trp | Met | Leu | Ala | Gln | Arg | Asp | Leu | Val | Pro | Asn | Gly | Ser | Ala | Thr | Ala |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Lys | Ala | Leu | Asp | Tyr | Ser | Leu | Lys | Arg | Trp | Val | Ala | Leu | Thr | Arg | Tyr |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Leu | Asp | Asp | Gly | Ala | Val | Pro | Ile | Asp | Asn | Asn | Gln | Val | Glu | Asn | Gln |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     | 335 |         |
| Ile | Arg | Pro | Trp | Ala | Leu | Gly | Arg | Ser | Asn | Trp | Leu | Phe | Ala | Gly Ser |
|     |     |     |     | 340 |     |     |     | 345 |     |     |     |     | 350 |         |
| Leu | Arg | Ser | Gly | Lys | Arg | Ala | Ala | Ala | Ile | Met | Ser | Leu | Ile |         |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |         |

<210> 227  
 <211> 189  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 227

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| Met | Val | Arg | Arg | Arg | Val | Ala | Val | Ala | Arg | Glu | Cys | Leu | Ser | Leu     |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |         |
| Ser | Ser | Ala | Pro | Asn | Gln | Val | Leu | Ser | Met | Asp | Phe | Val | Phe | Asp Ala |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |         |
| Leu | Ser | Thr | Gly | Arg | Arg | Ile | Lys | Cys | Leu | Thr | Val | Val | Asp | Asp Phe |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |         |
| Thr | Lys | Val | Ser | Val | Asp | Ile | Leu | Val | Glu | Tyr | Gly | Ile | Ser | Gly Phe |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |         |
| Arg | Val | Thr | Arg | Ala | Leu | Asp | Glu | Met | Ala | Arg | Phe | Arg | Gly | Tyr Pro |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80      |
| Gln | Ala | Ile | Arg | Thr | Asp | Gln | Gly | Pro | Glu | Phe | Thr | Gly | Lys | Ala Leu |
|     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |         |
| Asp | Gln | Trp | Ala | Cys | Gln | Arg | Asp | Ile | Lys | Leu | Lys | Leu | Ile | Gln Pro |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |         |
| Gly | Gln | Pro | Thr | Gln | Ser | Ala | Phe | Ile | Glu | Ser | Phe | Asn | Gly | Lys Phe |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |         |
| Arg | Gly | Glu | Cys | Leu | Asn | Glu | His | Cys | Ser | Leu | Val | Glu | Ala | Arg Ile |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |         |
| Arg | Ile | Ala | Ala | Trp | Arg | Asp | Tyr | Asn | Glu | His | Arg | Pro | His | Ser Ala |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160     |
| Ile | Gly | Asn | Leu | Ser | Pro | Ala | Glu | Leu | Ala | Ala | Lys | Trp | Arg | Thr Asn |
|     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |         |
| Gln | Gln | Gln | Leu | Lys | Arg | Glu | Lys | Leu | Ile | Ser | Thr | Pro |     |         |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     |     |         |

<210> 228  
 <211> 687  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 228

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| Met | His | Ile | Gln | Ser | Leu | Gly | Ala | Thr | Ala | Ser | Ser | Leu | Asn | Gln Glu |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     | 15  |         |
| Pro | Val | Glu | Thr | Pro | Ser | Gln | Ala | Ala | His | Lys | Ser | Ala | Ser | Leu Arg |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |         |
| Gln | Glu | Pro | Ser | Gly | Gln | Gly | Leu | Gly | Val | Ala | Leu | Lys | Ser | Thr Pro |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |         |
| Gly | Ile | Leu | Ser | Gly | Lys | Leu | Pro | Glu | Ser | Val | Ser | Asp | Val | Arg Phe |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |         |
| Ser | Ser | Pro | Gln | Gly | Gln | Gly | Glu | Ser | Arg | Thr | Leu | Thr | Asp | Ser Ala |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80      |
| Gly | Pro | Arg | Gln | Ile | Thr | Leu | Arg | Gln | Phe | Glu | Asn | Gly | Val | Thr Glu |
|     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |         |
| Leu | Gln | Leu | Ser | Arg | Pro | Pro | Leu | Thr | Ser | Leu | Val | Leu | Ser | Gly Gly |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |         |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ala | Lys | Gly | Ala | Ala | Tyr | Pro | Gly | Ala | Met | Leu | Ala | Leu | Glu | Glu |
|     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Lys | Gly | Met | Leu | Asp | Gly | Ile | Arg | Ser | Met | Ser | Gly | Ser | Ser | Ala | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Ile | Thr | Ala | Ala | Leu | Leu | Ala | Ser | Gly | Met | Ser | Pro | Ala | Ala | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Lys | Thr | Leu | Ser | Asp | Lys | Met | Asp | Leu | Ile | Ser | Leu | Leu | Asp | Ser | Ser |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asn | Lys | Lys | Leu | Lys | Leu | Phe | Gln | His | Ile | Ser | Ser | Glu | Ile | Gly | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Leu | Lys | Lys | Gly | Leu | Gly | Asn | Lys | Ile | Gly | Gly | Phe | Ser | Glu | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Leu | Asn | Val | Leu | Pro | Arg | Ile | Asp | Ser | Arg | Ala | Glu | Pro | Leu | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Leu | Leu | Arg | Asp | Glu | Thr | Arg | Lys | Ala | Val | Leu | Gly | Gln | Ile | Ala |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Thr | His | Pro | Glu | Val | Ala | Arg | Gln | Pro | Thr | Val | Ala | Ala | Ile | Ala | Ser |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Leu | Gln | Ser | Gly | Ser | Gly | Val | Thr | Phe | Gly | Asp | Leu | Asp | Arg | Leu |
|     |     |     | 260 |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Ser | Ala | Tyr | Ile | Pro | Gln | Ile | Lys | Thr | Leu | Asn | Ile | Thr | Gly | Thr | Ala |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Met | Phe | Glu | Gly | Arg | Pro | Gln | Leu | Val | Val | Phe | Asn | Ala | Ser | His | Thr |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Pro | Asp | Leu | Glu | Val | Ala | Gln | Ala | Ala | His | Ile | Ser | Gly | Ser | Phe | Pro |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gly | Val | Phe | Gln | Lys | Val | Ser | Leu | Ser | Asp | Gln | Pro | Tyr | Gln | Ala | Gly |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Val | Glu | Trp | Thr | Glu | Phe | Gln | Asp | Gly | Gly | Val | Met | Ile | Asn | Val | Pro |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Val | Pro | Glu | Met | Ile | Asp | Lys | Asn | Phe | Asp | Ser | Gly | Pro | Leu | Arg | Arg |
|     |     |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Asn | Asp | Asn | Leu | Ile | Leu | Glu | Phe | Glu | Gly | Glu | Ala | Gly | Glu | Val | Ala |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Asp | Arg | Gly | Thr | Arg | Gly | Gly | Ala | Leu | Lys | Gly | Trp | Val | Val | Gly |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Val | Pro | Ala | Leu | Gln | Ala | Arg | Glu | Met | Leu | Gln | Leu | Glu | Gly | Leu | Glu |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Glu | Leu | Arg | Glu | Gln | Thr | Val | Val | Val | Pro | Leu | Lys | Ser | Glu | Arg | Gly |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Asp | Phe | Ser | Gly | Met | Leu | Gly | Gly | Thr | Leu | Asn | Phe | Thr | Met | Pro | Asp |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Glu | Ile | Lys | Ala | His | Leu | Gln | Ala | Ser | Glu | Arg | Leu | Gln | Glu | Val | Gly |
|     | 450 |     |     |     |     | 455 |     |     |     |     |     | 460 |     |     |     |
| His | Leu | Glu | Lys | Arg | Leu | Gln | Ala | Ser | Glu | Arg | His | Thr | Phe | Ala | Ser |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Leu | Asp | Glu | Ala | Leu | Leu | Ala | Leu | Asp | Asp | Ser | Met | Leu | Thr | Ser | Val |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Ala | Gln | Gln | Asn | Pro | Glu | Ile | Thr | Asp | Gly | Ala | Val | Ala | Phe | Arg | Gln |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Lys | Ala | Arg | Asp | Ala | Phe | Thr | Glu | Leu | Thr | Val | Ala | Ile | Val | Ser | Ala |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Asn | Gly | Leu | Ala | Gly | Arg | Leu | Lys | Leu | Asp | Glu | Ala | Met | Arg | Ser | Ala |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Leu | Gln | Arg | Leu | Asp | Ala | Leu | Ala | Asp | Thr | Pro | Glu | Arg | Leu | Ala | Trp |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Leu | Ala | Ala | Glu | Leu | Asn | His | Ala | Asp | Asn | Val | Asp | His | Gln | Gln | Leu |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Leu | Asp | Ala | Met | Arg | Gly | Gln | Thr | Val | Gln | Ser | Pro | Val | Leu | Ala | Ala |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     | 580 |     |     |     |     |     | 585 |     |     |     | 590 |     |     |     |  |  |
| Ala | Leu | Ala | Glu | Ala | Gln | Arg | Arg | Lys | Val | Ala | Val | Ile | Ala | Glu | Asn |  |  |
|     |     | 595 |     |     |     |     |     | 600 |     |     |     | 605 |     |     |     |  |  |
| Ile | Arg | Lys | Glu | Val | Ile | Phe | Pro | Ser | Leu | Tyr | Arg | Pro | Gly | Gln | Pro |  |  |
|     |     | 610 |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Asp | Ser | Asn | Val | Ala | Leu | Leu | Arg | Arg | Ala | Glu | Glu | Gln | Leu | Arg | His |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |
| Ala | Thr | Ser | Pro | Ala | Glu | Ile | Asn | Gln | Ala | Leu | Asn | Asp | Ile | Val | Asp |  |  |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     | 655 |     |  |  |
| Asn | Tyr | Ser | Ala | Arg | Gly | Phe | Leu | Arg | Phe | Gly | Lys | Pro | Leu | Ser | Ser |  |  |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |
| Thr | Thr | Val | Glu | Met | Ala | Lys | Ala | Trp | Arg | Asn | Lys | Glu | Phe | Thr |     |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |

<210> 229  
 <211> 137  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 229

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Ile | Asp | Thr | Trp | Leu | Ala | Gln | Trp | Gly | Leu | Arg | Leu | Pro | Ser | Ser |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Asn | Asp | Ala | Thr | Leu | Arg | Leu | Gln | Pro | Ala | Glu | Gly | Pro | Glu | Leu | Val |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Met | Glu | Arg | Leu | Glu | Gly | Gly | Trp | Leu | Phe | Val | Val | Glu | Leu | Gly | Leu |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Val | Pro | Ser | Gly | Leu | Pro | Leu | Gly | Val | Ile | Leu | Gln | Leu | Leu | Gln | Val |  |  |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Asn | Ser | Pro | Phe | Ser | Ser | Leu | Ala | Pro | Val | Lys | Leu | Ala | Ala | Asp | Asp |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ala | Gly | Arg | Leu | Val | Leu | Trp | Ala | Glu | Ala | Arg | Asp | Gly | Val | Asp | Asp |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Val | Asp | Ala | Leu | Asn | Arg | Leu | His | Asp | Arg | Leu | Arg | Glu | Gly | His | Ser |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Arg | Leu | Val | Pro | Leu | Leu | Glu | Pro | Thr | Gly | Glu | Leu | Val | Pro | Ala | Gln |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ile | Gln | Thr | Ser | Ala | Leu | Val | Phe | Val |     |     |     |     |     |     |     |  |  |
|     |     | 130 |     |     |     |     | 135 |     |     |     |     |     |     |     |     |  |  |

<210> 230  
 <211> 76  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<220>

<400> 230

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Asp | Gln | Thr | Cys | Asp | Asn | Leu | Ser | Gln | Asn | Pro | Pro | His | His | Leu | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Leu | Arg | Leu | Leu | Asp | His | Trp | Gly | Asp | Pro | Ala | Gly | Cys | Trp | Ser | Leu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Gly | Gln | Thr | Tyr | Ser | Gly | His | Leu | Tyr | Leu | Pro | Tyr | Cys | Arg | Glu | Leu |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| His | Lys | Cys | Ser | Leu | Cys | Ala | His | Arg | Asn | Trp | His | His | Tyr | Cys | Cys |  |  |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Leu | Trp | Pro | Val | Trp | Met | Leu | Cys | Tyr | Met | Ser | Trp |     |     |     |     |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     |  |  |

<210> 231  
 <211> 76  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 231  
 Asp Gln Thr Cys Asp Asn Leu Ser Gln Asn Pro Pro His His Leu Leu  
 1 5 10 15  
 Leu Arg Leu Leu Asp His Trp Gly Asp Pro Ala Gly Cys Trp Ser Leu  
 20 25 30  
 Gly Gln Thr Tyr Ser Gly His Leu Tyr Leu Pro Tyr Cys Arg Glu Leu  
 35 40 45  
 His Lys Cys Ser Leu Cys Ala His Arg Asn Trp His His Tyr Cys Cys  
 50 55 60  
 Leu Trp Pro Val Trp Met Leu Cys Tyr Met Ser Trp  
 65 70 75

<210> 232  
 <211> 76  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 232  
 Asp Gln Thr Cys Asp Asn Leu Ser Gln Asn Pro Pro His His Leu Leu  
 1 5 10 15  
 Leu Arg Leu Leu Asp His Trp Gly Asp Pro Ala Gly Cys Trp Ser Leu  
 20 25 30  
 Gly Gln Thr Tyr Ser Gly His Leu Tyr Leu Pro Tyr Cys Arg Glu Leu  
 35 40 45  
 His Lys Cys Ser Leu Cys Ala His Arg Asn Trp His His Tyr Cys Cys  
 50 55 60  
 Leu Trp Pro Val Trp Met Leu Cys Tyr Met Ser Trp  
 65 70 75

<210> 233  
 <211> 58  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 233  
 Gln Val Gln His Pro Pro Leu Cys Leu Leu Asp Gln His Gln Gln Glu  
 1 5 10 15  
 Cys Ile Pro Pro Cys Leu Pro Pro Asp His Leu Gln Asp Pro Gln His  
 20 25 30  
 Pro Phe Leu Leu Pro Asp His His Val Pro His Leu Val Val Leu Ile  
 35 40 45  
 Gln Pro Gln Leu Cys Arg Ala Leu Ala Pro  
 50 55

<210> 234  
 <211> 56  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 234

Gln Val Gln His Pro Cys Leu Leu Asp Gln His Gln Gln Glu Cys Ile Pro Pro Cys  
 Leu Pro Pro Asp His Leu Gln Asp Pro Gln His Pro Phe Leu Leu Pro Asp His His  
 Val Pro His Leu Val Val Leu Ile Gln Pro Gln Leu Cys Arg Ala Leu Ala Pro

<210> 235  
 <211> 58  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<220>  
 <221> VARIANT  
 <222> 6,7  
 <223> Xaa = Any amino acid

<400> 235  
 Gln Val Gln His Pro Xaa Xaa Cys Leu Leu Asp Gln His Gln Gln Glu  
 1 5 10 15  
 Cys Ile Pro Pro Cys Leu Pro Pro Asp His Leu Gln Asp Pro Gln His  
 20 25 30  
 Pro Phe Leu Leu Pro Asp His His Val Pro His Leu Val Val Leu Ile  
 35 40 45  
 Gln Pro Gln Leu Cys Arg Ala Leu Ala Pro  
 50 55

<210> 236  
 <211> 161  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 236  
 Cys Gly Gly Ala Ser Cys His Asn Thr Leu Gly Ser Tyr Lys Cys Met  
 1 5 10 15  
 Cys Pro Ala Gly Phe Gln Tyr Glu Gln Phe Ser Gly Gly Cys Gln Asp  
 20 25 30  
 Ile Asn Glu Cys Gly Ser Ala Gln Ala Pro Cys Ser Tyr Gly Cys Ser  
 35 40 45  
 Asn Thr Glu Gly Gly Tyr Leu Cys Gly Cys Pro Pro Gly Tyr Phe Arg  
 50 55 60  
 Ile Gly Gln Gly His Cys Val Ser Gly Met Gly Met Gly Arg Gly Asn  
 65 70 75 80  
 Pro Glu Pro Pro Val Ser Gly Glu Met Asp Asp Asn Ser Leu Ser Pro  
 85 90 95  
 Glu Ala Cys Tyr Glu Cys Lys Ile Asn Gly Tyr Pro Lys Arg Gly Arg  
 100 105 110  
 Lys Arg Arg Ser Thr Asn Glu Thr Asp Ala Ser Asn Ile Glu Asp Gln  
 115 120 125  
 Ser Glu Thr Glu Ala Asn Val Ser Leu Ala Ser Trp Asp Val Glu Lys  
 130 135 140  
 Thr Ala Ile Phe Ala Phe Asn Ile Ser His Val Asn Lys Val Arg Ile  
 145 150 155 160  
 Leu

<210> 237  
 <211> 161  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 237

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Gly | Gly | Ala | Ser | Cys | His | Asn | Thr | Leu | Gly | Ser | Tyr | Lys | Cys | Met |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Pro | Ala | Gly | Phe | Gln | Tyr | Glu | Gln | Phe | Ser | Gly | Gly | Cys | Gln | Asp |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Asn | Glu | Cys | Gly | Ser | Ala | Gln | Ala | Pro | Cys | Ser | Tyr | Gly | Cys | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Thr | Glu | Gly | Gly | Tyr | Leu | Cys | Gly | Cys | Pro | Pro | Gly | Tyr | Phe | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ile | Gly | Gln | Gly | His | Cys | Val | Ser | Gly | Met | Gly | Met | Gly | Arg | Gly | Asn |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Glu | Pro | Pro | Val | Ser | Gly | Glu | Met | Asp | Asp | Asn | Ser | Leu | Ser | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Ala | Cys | Tyr | Glu | Cys | Lys | Ile | Asn | Gly | Tyr | Pro | Lys | Arg | Gly | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Arg | Arg | Ser | Thr | Asn | Glu | Thr | Asp | Ala | Ser | Asn | Ile | Glu | Asp | Gln |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Glu | Thr | Glu | Ala | Asn | Val | Ser | Leu | Ala | Ser | Trp | Asp | Val | Glu | Lys |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Ala | Ile | Phe | Ala | Phe | Asn | Ile | Ser | His | Val | Asn | Lys | Val | Arg | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 238

<211> 162

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 238

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Gly | Gly | Ala | Ser | Cys | His | Asn | Thr | Leu | Gly | Ser | Tyr | Lys | Cys | Met |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Pro | Ala | Gly | Phe | Gln | Tyr | Glu | Gln | Phe | Ser | Gly | Gly | Cys | Gln | Asp |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Asn | Glu | Cys | Gly | Ser | Ala | Gln | Ala | Pro | Cys | Ser | Tyr | Gly | Cys | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Thr | Glu | Gly | Gly | Tyr | Leu | Cys | Gly | Cys | Pro | Pro | Gly | Tyr | Phe | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ile | Gly | Gln | Gly | His | Cys | Val | Ser | Gly | Met | Gly | Met | Gly | Arg | Gly | Asn |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Glu | Pro | Pro | Val | Ser | Gly | Glu | Met | Asp | Asp | Asn | Ser | Leu | Ser | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Ala | Cys | Tyr | Glu | Cys | Lys | Ile | Asn | Gly | Tyr | Pro | Lys | Arg | Gly | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Arg | Arg | Ser | Thr | Asn | Glu | Thr | Asp | Ala | Ser | Asn | Ile | Glu | Asp | Gln |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Glu | Thr | Glu | Ala | Asn | Val | Ser | Leu | Ala | Ser | Trp | Asp | Val | Glu | Lys |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Ala | Ile | Phe | Ala | Phe | Asn | Ile | Ser | His | Val | Ser | Asn | Lys | Val | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ile | Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 239

<211> 88

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 239

Asp Gly Asp Val Tyr Asn Pro Ser Thr Gly Val Phe Thr Ala Pro Tyr  
1 5 10 15  
Asp Gly Arg Tyr Leu Ile Thr Ala Thr Leu Thr Pro Glu Arg Asp Ala  
20 25 30  
Tyr Val Glu Ala Val Leu Ser Val Ser Asn Ala Ser Val Ala Gln Leu  
35 40 45  
His Thr Ala Gly Tyr Arg Arg Glu Phe Leu Glu Tyr His Arg Pro Pro  
50 55 60  
Gly Ala Leu His Thr Cys Gly Gly Pro Gly Ala Phe His Leu Ile Val  
65 70 75 80  
His Leu Lys Ala Gly Asp Ala Val  
85

<210> 240

<211> 46

<212> PRT

<213> Pseudomonas aeruginosa

<400> 240

Asp Gly Tyr Pro Thr Gly Val Phe Thr Ala Pro Gly Arg Tyr Leu Ala  
1 5 10 15  
Leu Thr Arg Val Glu Ala Val Leu Ser Ser Asn Val Ala Gly Tyr Glu  
20 25 30  
Leu Glu Pro Gly Gly Pro Phe Leu Ile Leu Ala Gly Asp Val  
35 40 45

<210> 241

<211> 88

<212> PRT

<213> Pseudomonas aeruginosa

<400> 241

Asp Gly Gly Tyr Tyr Asp Pro Glu Thr Gly Val Phe Thr Ala Pro Leu  
1 5 10 15  
Ala Gly Arg Tyr Leu Leu Ser Ala Val Leu Thr Gly His Arg His Glu  
20 25 30  
Lys Val Glu Ala Val Leu Ser Arg Ser Asn Gln Gly Val Ala Arg Val  
35 40 45  
Asp Ser Gly Gly Tyr Glu Pro Glu Gly Leu Glu Asn Lys Pro Val Ala  
50 55 60  
Glu Ser Gln Pro Ser Pro Gly Thr Leu Gly Val Phe Ser Leu Ile Leu  
65 70 75 80  
Pro Leu Gln Ala Gly Asp Thr Val  
85

<210> 242

<211> 88

<212> PRT

<213> Pseudomonas aeruginosa

<400> 242

Asp Gly Asp Val Tyr Asn Pro Ser Thr Gly Val Phe Thr Ala Pro Tyr  
1 5 10 15  
Asp Gly Arg Tyr Leu Ile Thr Ala Thr Leu Thr Pro Glu Arg Asp Ala  
20 25 30

Tyr Val Glu Ala Val Leu Ser Val Ser Asn Ala Ser Val Ala Gln Leu  
           35                          40                          45  
 His Thr Ala Gly Tyr Arg Arg Glu Phe Leu Glu Tyr His Arg Pro Pro  
           50                          55                          60  
 Gly Ala Leu His Thr Cys Gly Gly Pro Gly Ala Phe His Leu Ile Val  
 65                          70                          75                          80  
 His Leu Lys Ala Gly Asp Ala Val  
                           85

<210> 243  
 <211> 45  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 243  
 Asp Gly Tyr Pro Thr Gly Val Phe Thr Ala Pro Gly Arg Tyr Leu Ala  
 1                          5                          10                          15  
 Leu Thr Arg Val Glu Ala Val Leu Ser Ser Asn Val Ala Gly Tyr Glu  
                           20                          25                          30  
 Leu Glu Pro Gly Gly Phe Leu Ile Leu Ala Gly Asp Val  
           35                          40                          45

<210> 244  
 <211> 88  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 244  
 Asp Gly Gly Tyr Tyr Asp Pro Glu Thr Gly Val Phe Thr Ala Pro Leu  
 1                          5                          10                          15  
 Ala Gly Arg Tyr Leu Leu Ser Ala Val Leu Thr Gly His Arg His Glu  
                           20                          25                          30  
 Lys Val Glu Ala Val Leu Ser Arg Ser Asn Gln Gly Val Ala Arg Val  
           35                          40                          45  
 Asp Ser Gly Gly Tyr Glu Pro Glu Gly Leu Glu Asn Lys Pro Val Ala  
           50                          55                          60  
 Glu Ser Gln Pro Ser Pro Gly Thr Leu Gly Val Phe Ser Leu Ile Leu  
 65                          70                          75                          80  
 Pro Leu Gln Ala Gly Asp Thr Val  
                           85

<210> 245  
 <211> 51  
 <212> PRT  
 <213> *Pseudomonas aeruginosa*

<400> 245  
 Gly Glu Asn Gly Ser Ser Gly Ser Gln Ala Pro Leu Gln Gly Leu Arg  
 1                          5                          10                          15  
 Gly Ile Phe Gly Leu Trp Gly Arg Arg Ser Arg Ala Arg Phe Cys Gly  
                           20                          25                          30  
 Pro Arg Pro Val Ala Arg Leu Gly Gly Gly Thr Ser Ala Gly Arg Glu  
           35                          40                          45  
 Leu Gly Leu  
           50

<210> 246  
 <211> 24  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 246  
 Gly Glu Gly Ser Gly Pro Gln Gly Arg Gly Ile Gly Gly Gly Pro Arg  
 1 5 10 15  
 Pro Gly Gly Gly Ser Gly Gly Leu  
 20

<210> 247  
 <211> 51  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 247  
 Gly Glu Pro Gly Pro Ser Gly Glu Asn Gly Pro Gln Gly Val Arg Gly  
 1 5 10 15  
 Ile Pro Gly Val Val Gly Glu Asn Gly Lys Thr Gly Arg Gly Gly Pro  
 20 25 30  
 Arg Gly Pro Pro Gly Leu Arg Gly Gly Gly Gly Ser Arg Gly Glu Arg  
 35 40 45  
 Gly Gly Leu  
 50

<210> 248  
 <211> 51  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 248  
 Gly Glu Asn Gly Ser Ser Gly Ser Gln Ala Pro Leu Gln Gly Leu Arg  
 1 5 10 15  
 Gly Ile Phe Gly Leu Trp Gly Arg Arg Ser Arg Ala Arg Phe Cys Gly  
 20 25 30  
 Pro Arg Pro Val Ala Arg Leu Gly Gly Gly Thr Ser Ala Gly Arg Glu  
 35 40 45  
 Leu Gly Leu  
 50

<210> 249  
 <211> 24  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 249  
 Gly Glu Gly Ser Gly Pro Gln Gly Arg Gly Ile Gly Gly Gly Pro Arg  
 1 5 10 15  
 Pro Gly Gly Gly Ser Gly Gly Leu  
 20

<210> 250  
 <211> 51  
 <212> PRT

<213> Pseudomonas aeruginosa

<400> 250

Gly Glu Pro Gly Pro Ser Gly Glu Asn Gly Pro Gln Gly Val Arg Gly  
1 5 10 15  
Ile Pro Gly Val Gly Glu Asn Gly Lys Thr Gly Arg Gly Gly Pro  
20 25 30  
Arg Gly Pro Pro Gly Leu Arg Gly Gly Gly Ser Arg Gly Glu Arg  
35 40 45  
Gly Gly Leu  
50

<210> 251

<211> 138

<212> PRT

<213> Pseudomonas aeruginosa

<400> 251

Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met  
1 5 10 15  
Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly  
20 25 30  
Arg Arg Gln Arg Ile Thr Met Ala Ile Arg Thr Val Arg Glu Glu Ile  
35 40 45  
Leu Lys Ala Gln Thr Pro Glu Gly His Phe Gly Asn Val Tyr Ser Thr  
50 55 60  
Pro Leu Ala Leu Gln Phe Leu Met Thr Ser Pro Met Pro Gly Ala Glu  
65 70 75 80  
Leu Gly Thr Ala Cys Leu Lys Ala Arg Val Ala Leu Leu Ala Ser Leu  
85 90 95  
Gln Asp Gly Ala Phe Gln Asn Ala Leu Met Ile Ser Gln Leu Leu Pro  
100 105 110  
Val Leu Asn His Lys Thr Tyr Ile Asp Leu Ile Phe Pro Asp Cys Leu  
115 120 125  
Ala Pro Arg Val Met Leu Glu Pro Ala Ala  
130 135

<210> 252

<211> 138

<212> PRT

<213> Pseudomonas aeruginosa

<400> 252

Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met  
1 5 10 15  
Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly  
20 25 30  
Arg Arg Gln Arg Ile Thr Met Ala Ile Arg Thr Val Arg Glu Glu Ile  
35 40 45  
Leu Lys Ala Gln Thr Pro Glu Gly His Phe Gly Asn Val Tyr Ser Thr  
50 55 60  
Pro Leu Ala Leu Gln Phe Leu Met Thr Ser Pro Met Pro Gly Ala Glu  
65 70 75 80  
Leu Gly Thr Ala Cys Leu Lys Ala Arg Val Ala Leu Leu Ala Ser Leu  
85 90 95  
Gln Asp Gly Ala Phe Gln Asn Ala Leu Met Ile Ser Gln Leu Leu Pro  
100 105 110



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Leu | Asn | His | Lys | Thr | Tyr | Ile | Asp | Leu | Ile | Phe | Pro | Asp | Cys | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Pro | Arg | Val | Met | Leu | Glu | Pro | Ala | Ala |     |     |     |     |     |     |
|     |     | 130 |     |     |     | 135 |     |     |     |     |     |     |     |     |     |

<210> 253  
 <211> 138  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 253 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Val       | Glu | Pro | Phe | His | Gln | Gly | His | His | Ser | Val | Asp | Thr | Ala | Ala | Met |
| 1         |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala       | Gly | Leu | Ala | Phe | Thr | Cys | Leu | Lys | Arg | Ser | Asn | Phe | Asn | Pro | Gly |
|           |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg       | Arg | Gln | Arg | Ile | Thr | Met | Ala | Ile | Arg | Thr | Val | Arg | Glu | Glu | Ile |
|           |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu       | Lys | Ala | Gln | Thr | Pro | Glu | Gly | His | Phe | Gly | Asn | Val | Tyr | Ser | Thr |
|           | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro       | Leu | Ala | Leu | Gln | Phe | Leu | Met | Thr | Ser | Pro | Met | Pro | Gly | Ala | Glu |
| 65        |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Leu       | Gly | Thr | Ala | Cys | Leu | Lys | Ala | Arg | Val | Ala | Leu | Leu | Ala | Ser | Leu |
|           |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gln       | Asp | Gly | Ala | Phe | Gln | Asn | Ala | Leu | Met | Ile | Ser | Gln | Leu | Leu | Pro |
|           |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Val       | Leu | Asn | His | Lys | Thr | Tyr | Ile | Asp | Leu | Ile | Phe | Pro | Asp | Cys | Leu |
|           |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala       | Pro | Arg | Val | Met | Leu | Glu | Pro | Ala | Ala |     |     |     |     |     |     |
|           |     | 130 |     |     |     | 135 |     |     |     |     |     |     |     |     |     |

<210> 254  
 <211> 40  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 254 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Val       | Glu | Pro | Phe | His | Gln | Gly | His | His | Ser | Val | Asp | Thr | Ala | Ala | Met |
| 1         |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala       | Gly | Leu | Ala | Phe | Thr | Cys | Leu | Lys | Arg | Ser | Asn | Phe | Asn | Pro | Gly |
|           |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg       | Arg | Gln | Arg | Ile | Thr | Met | Ala |     |     |     |     |     |     |     |     |
|           |     | 35  |     |     |     | 40  |     |     |     |     |     |     |     |     |     |

<210> 255  
 <211> 40  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 255 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Val       | Glu | Pro | Phe | His | Gln | Gly | His | His | Ser | Val | Asp | Thr | Ala | Ala | Met |
| 1         |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala       | Gly | Leu | Ala | Phe | Thr | Cys | Leu | Lys | Arg | Ser | Asn | Phe | Asn | Pro | Gly |
|           |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg       | Arg | Gln | Arg | Ile | Thr | Met | Ala |     |     |     |     |     |     |     |     |
|           |     | 35  |     |     |     | 40  |     |     |     |     |     |     |     |     |     |

<210> 256  
<211> 40  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 256  
Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met  
1 5 10 15  
Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly  
20 25 30  
Arg Arg Gln Arg Ile Thr Met Ala  
35 40

<210> 257  
<211> 40  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 257  
Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met  
1 5 10 15  
Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly  
20 25 30  
Arg Arg Gln Arg Ile Thr Met Ala  
35 40

<210> 258  
<211> 40  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 258  
Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met  
1 5 10 15  
Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly  
20 25 30  
Arg Arg Gln Arg Ile Thr Met Ala  
35 40

<210> 259  
<211> 40  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 259  
Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met  
1 5 10 15  
Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly  
20 25 30  
Arg Arg Gln Arg Ile Thr Met Ala  
35 40

<210> 260  
<211> 141  
<212> PRT

<213> Pseudomonas aeruginosa

<400> 260

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Asn | Cys | Gln | Asp | Ile | Asp | Glu | Cys | Val | Thr | Gly | Ile | His | Asn | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Ile | Asn | Glu | Thr | Cys | Phe | Asn | Ile | Gln | Gly | Gly | Phe | Arg | Cys | Leu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Phe | Glu | Cys | Pro | Glu | Asn | Tyr | Arg | Arg | Ser | Ala | Ala | Thr | Leu | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Glu | Lys | Thr | Asp | Thr | Val | Arg | Cys | Ile | Lys | Ser | Cys | Arg | Pro | Asn |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Val | Thr | Cys | Val | Phe | Asp | Pro | Val | His | Thr | Ile | Ser | His | Thr | Val |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Ser | Leu | Pro | Thr | Phe | Arg | Glu | Phe | Thr | Arg | Pro | Glu | Glu | Ile | Ile |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Leu | Arg | Ala | Ile | Thr | Pro | Pro | His | Pro | Ala | Ser | Gln | Ala | Asn | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Phe | Asp | Ile | Thr | Glu | Gly | Asn | Leu | Arg | Asp | Ser | Phe | Asp | Ile | Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys | Arg | Tyr | Met | Asp | Gly | Met | Thr | Val | Gly | Ile | Arg | Arg |     |     |     |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |

<210> 261

<211> 138

<212> PRT

<213> Pseudomonas aeruginosa

<400> 261

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Asn | Cys | Gln | Asp | Ile | Asp | Glu | Cys | Val | Thr | Gly | Ile | His | Asn | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Ile | Asn | Glu | Thr | Cys | Phe | Asn | Ile | Gln | Gly | Phe | Arg | Cys | Leu | Ala |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Glu | Cys | Pro | Glu | Asn | Tyr | Arg | Arg | Ser | Ala | Ala | Thr | Leu | Gln | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Lys | Thr | Asp | Thr | Val | Arg | Cys | Ile | Lys | Ser | Cys | Arg | Pro | Asn | Asp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Thr | Cys | Val | Phe | Asp | Pro | Val | His | Thr | Ile | Ser | His | Thr | Val | Ile |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Leu | Pro | Thr | Phe | Arg | Glu | Phe | Thr | Arg | Pro | Glu | Glu | Ile | Ile | Phe |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Leu | Arg | Ala | Ile | Thr | Pro | Pro | His | Pro | Ala | Ser | Gln | Ala | Asn | Ile | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Asp | Ile | Thr | Glu | Gly | Asn | Leu | Arg | Asp | Ser | Phe | Asp | Ile | Ile | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Tyr | Met | Asp | Gly | Met | Thr | Val | Gly | Arg |     |     |     |     |     |     |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     |     |     |     |     |

<210> 262

<211> 141

<212> PRT

<213> Pseudomonas aeruginosa

<400> 262

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Asn | Cys | Gln | Asp | Ile | Asp | Glu | Cys | Val | Thr | Gly | Ile | His | Asn | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Ile | Asn | Glu | Thr | Cys | Phe | Asn | Ile | Gln | Gly | Ala | Phe | Arg | Cys | Leu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Phe | Glu | Cys | Pro | Glu | Asn | Tyr | Arg | Arg | Ser | Ala | Ala | Thr | Leu | Gln |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Gln | Glu | Lys | Thr | Asp | Thr | Val | Arg | Cys | Ile | Lys | Ser | Cys | Arg | Pro | Asn |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Asp | Val | Thr | Cys | Val | Phe | Asp | Pro | Val | His | Thr | Ile | Ser | His | Thr | Val |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Ser | Leu | Pro | Thr | Phe | Arg | Glu | Phe | Thr | Arg | Pro | Glu | Glu | Ile | Ile |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Phe | Leu | Arg | Ala | Ile | Thr | Pro | Pro | His | Pro | Ala | Ser | Gln | Ala | Asn | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Phe | Asp | Ile | Thr | Glu | Gly | Asn | Leu | Arg | Asp | Ser | Phe | Asp | Ile | Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys | Arg | Tyr | Met | Asp | Gly | Met | Thr | Val | Gly | Val | Val | Arg |     |     |     |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |

<210> 263

<211> 150

<212> PRT

<213> Pseudomonas aeruginosa

<220>

<221> VARIANT

<222> 14, 18, 19, 35, 37, 42, 51, 55, 60, 68, 70, 74, 85, 87, 91, 96, 98, 106, 128, 135

<223> Xaa = Any amino acid

<221> VARIANT

<222> 14, 18, 19, 35, 37, 42, 51, 55, 60, 68, 70, 74, 85, 87, 91, 96, 98, 106, 128, 135

<223> Xaa = Any Amino Acid

<400> 263

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Gly | Ser | Arg | Ile | Arg | Gly | Arg | Val | Asp | Thr | Leu | Gln | Xaa | Asn | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Pro | Xaa | Xaa | Met | Met | Val | Lys | Asp | Glu | Tyr | Val | His | Asp | Phe | Glu | Gly |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Gln | Pro | Xaa | Leu | Xaa | Thr | Glu | Gly | His | Xaa | Ile | Gln | Thr | Ile | Gln | His |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Pro | Pro | Xaa | Asn | Arg | Ala | Xaa | Thr | Glu | Thr | Tyr | Xaa | Thr | Pro | Ala | Leu |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Leu | Ala | Pro | Xaa | Glu | Xaa | Asn | Ala | Thr | Xaa | Thr | Ala | Asn | Phe | Pro | Asn |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Pro | Val | Ala | Xaa | Thr | Xaa | Gln | Pro | Ala | Xaa | Ile | Leu | Gly | Gly | Xaa |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |     |
| His | Xaa | Glu | Gly | Leu | Leu | Gln | Ile | Ala | Xaa | Gly | Pro | Gln | Pro | Gly | Gln |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Gln | Gln | Asn | Gly | Phe | Thr | Gly | Gln | Pro | Ala | Thr | Tyr | His | His | Asn | Xaa |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Thr | Thr | Thr | Trp | Thr | Gly | Xaa | Arg | Thr | Ala | Pro | Tyr | Thr | Pro | Asn | Leu |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Pro | His | His | Gln | Lys | Gly |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     |     |     |     |     |     |     |

<210> 264

<211> 122

<212> PRT

<213> Pseudomonas aeruginosa

<400> 264  
 Pro Gly Gly Thr Leu Gln Asn Ala Pro Met Met Val Lys Asp Glu Tyr  
 1 5 10 15  
 Val His Asp Phe Glu Gly Gln Pro Leu Thr Glu Gly His Ile Gln Thr  
 20 25 30  
 Ile Gln His Pro Pro Asn Arg Ala Thr Glu Thr Tyr Thr Pro Ala Leu  
 35 40 45  
 Leu Ala Pro Glu Asn Ala Thr Ala Asn Phe Pro Asn Ile Pro Val  
 50 55 60  
 Ala Thr Gln Pro Ala Ile Leu Gly Gly His Glu Gly Leu Leu Gln Ile  
 65 70 75 80  
 Ala Gly Pro Gln Pro Gly Gln Gln Gln Asn Gly Phe Thr Gly Gln Pro  
 85 90 95  
 Ala Thr Tyr His Asn Thr Thr Thr Trp Thr Gly Arg Thr Ala Pro  
 100 105 110  
 Tyr Thr Pro Asn Leu Pro His His Gln Gly  
 115 120

<210> 265  
 <211> 148  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<220>  
 <221> VARIANT  
 <222> 16, 17  
 <223> Xaa = Any Amino Acid

<400> 265  
 Pro Gly Ile Asp Leu Ser Gly Leu Thr Leu Gln Ser Ser Ala Pro Xaa  
 1 5 10 15  
 Xaa Met Met Val Lys Asp Glu Tyr Val His Asp Phe Glu Gly Gln Pro  
 20 25 30  
 Ser Leu Ser Thr Glu Gly His Ser Ile Gln Thr Ile Gln His Pro Pro  
 35 40 45  
 Ser Asn Arg Ala Ser Thr Glu Thr Tyr Ser Thr Pro Ala Leu Leu Ala  
 50 55 60  
 Pro Ser Glu Ser Asn Ala Thr Ser Thr Ala Asn Phe Pro Asn Ile Pro  
 65 70 75 80  
 Val Ala Ser Thr Ser Gln Pro Ala Ser Ile Leu Gly Gly Ser His Ser  
 85 90 95  
 Glu Gly Leu Leu Gln Ile Ala Ser Gly Pro Gln Pro Gly Gln Gln Gln  
 100 105 110  
 Asn Gly Phe Thr Gly Gln Pro Ala Thr Tyr His His Asn Ser Thr Thr  
 115 120 125  
 Thr Trp Thr Gly Ser Arg Thr Ala Pro Tyr Thr Pro Asn Leu Pro His  
 130 135 140  
 His Gln Asn Gly  
 145

<210> 266  
 <211> 77  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 266  
 Met Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala Leu Trp

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1   |     | 5   |     | 10  |     | 15  |     |     |     |     |     |     |     |     |     |
| Leu | Cys | Cys | Ala | Thr | Pro | Ala | His | Ala | Leu | Gln | Cys | Arg | Asp | Gly | Tyr |
|     |     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |
| Glu | Pro | Cys | Val | Asn | Glu | Gly | Met | Cys | Val | Thr | Tyr | His | Asn | Gly | Thr |
|     |     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |
| Gly | Tyr | Cys | Lys | Cys | Pro | Gly | Phe | Leu | Gly | Glu | Tyr | Cys | Gln | His | Arg |
|     | 50  |     |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |
| Pro | Cys | Glu | Lys | Asn | Arg | Cys | Gly | Asp | Pro | Ser | Thr | Cys |     |     |     |
| 65  |     |     |     | 70  |     | 75  |     |     |     |     |     |     |     |     |     |

<210> 267  
 <211> 62  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 267 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Met       | Pro | Leu | Arg | Pro | Ala | Leu | Ala | Leu | Leu | Leu | Trp | Leu | Cys | Ala | Pro |
| 1         |     | 5   |     | 10  |     | 15  |     |     |     |     |     |     |     |     |     |
| Ala       | His | Ala | Leu | Gln | Cys | Arg | Gly | Glu | Pro | Cys | Val | Asn | Glu | Gly | Cys |
|           |     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |
| Val       | Thr | Tyr | His | Asn | Gly | Thr | Gly | Cys | Cys | Pro | Gly | Phe | Leu | Gly | Glu |
|           |     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |
| Tyr       | Cys | Gln | His | Arg | Pro | Cys | Glu | Lys | Asn | Arg | Cys | Thr | Cys |     |     |
|           | 50  |     |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |

<210> 268  
 <211> 79  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 268 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Met       | Pro | Asp | Leu | Arg | Pro | Ala | Ala | Leu | Arg | Ala | Leu | Leu | Trp | Leu | Trp |
| 1         |     | 5   |     | 10  |     | 15  |     |     |     |     |     |     |     |     |     |
| Leu       | Cys | Gly | Ala | Gly | Pro | Ala | His | Ala | Leu | Gln | Cys | Arg | Gly | Gly | Gln |
|           |     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |
| Glu       | Pro | Cys | Val | Asn | Glu | Gly | Thr | Cys | Val | Thr | Tyr | His | Asn | Gly | Thr |
|           |     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |
| Gly       | Phe | Cys | Arg | Cys | Pro | Glu | Gly | Phe | Leu | Gly | Glu | Tyr | Cys | Gln | His |
|           | 50  |     |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |
| Arg       | Asp | Pro | Cys | Glu | Lys | Asn | Arg | Cys | Gln | Asn | Gly | Gly | Thr | Cys |     |
| 65        |     |     |     | 70  |     | 75  |     |     |     |     |     |     |     |     |     |

<210> 269  
 <211> 163  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 269 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ile       | Arg | Gly | Arg | Val | Asp | Asp | Gln | Thr | Cys | Asp | Asn | Leu | Ser | Gln | Asn |
| 1         |     | 5   |     | 10  |     | 15  |     |     |     |     |     |     |     |     |     |
| Pro       | Pro | His | His | Leu | Leu | Leu | Arg | Leu | Leu | Asp | His | Trp | Gly | Asp | Pro |
|           |     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |
| Ala       | Gly | Cys | Trp | Ser | Leu | Gly | Gln | Thr | Tyr | Ser | Gly | His | Leu | Tyr | Leu |
|           |     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |
| Pro       | Tyr | Cys | Arg | Glu | Leu | His | Lys | Cys | Ser | Leu | Cys | Ala | His | Arg | Asn |
|           | 50  |     |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |

Trp His His Tyr Cys Cys Leu Trp Pro Val Trp Met Leu Cys Tyr Met  
 65 70 75 80  
 Ser Trp Pro Met Asp Ala Glu Thr Val Cys His Val Ser Val Pro Gly  
 85 90 95  
 Val Pro Gly Ala Arg Ser Trp His Phe Arg Val Cys Val Ser Ser Asp  
 100 105 110  
 Gln Gly His Leu Pro Glu Asp Leu His Gly Arg Tyr Ala Asp Leu Gln  
 115 120 125  
 Trp Gln Glu Glu Pro Gly Ser Gly Pro Cys Ala Ala Gln Pro Glu Leu  
 130 135 140  
 Leu Trp Cys Ala Glu Leu His Gln Leu Glu His Gln Pro Leu Leu Pro  
 145 150 155 160  
 Gly Ala Trp

<210> 270  
 <211> 170  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 270  
 Ile Arg Gly Arg Val Asp Gln Val Gln His Pro Pro Leu Cys Leu Leu  
 1 5 10 15  
 Asp Gln His Gln Glu Cys Ile Pro Cys Leu Pro Pro Asp His  
 20 25 30  
 Leu Gln Asp Pro Gln His Pro Phe Leu Leu Pro Asp His His Val Pro  
 35 40 45  
 His Leu Val Val Leu Ile Gln Pro Gln Leu Cys Arg Ala Leu Ala Pro  
 50 55 60  
 Gln Gly His Ile Leu His Gln Ile Cys Pro Phe Gln Ser Tyr Pro His  
 65 70 75 80  
 Met Val His Pro Gln Ile Gln Leu Gln Leu Val Leu Val His Gly Asp  
 85 90 95  
 Pro Cys Leu Leu Asp Leu Gly Arg Gln Glu Trp Glu Gly Ser Ile Leu  
 100 105 110  
 Pro Leu Ile Cys His Ile His Leu Gln Ala His Ile Pro Leu Leu Leu  
 115 120 125  
 Pro Lys Pro Leu Gly Gln His His Leu Phe His Gly Ala Pro Phe His  
 130 135 140  
 Gln Glu Pro Gly Asp His Gln His His Ile Leu Pro Leu Gln Asp Arg  
 145 150 155 160  
 Ile Pro His Gln Asp Ser Ile Leu Leu Pro  
 165 170

<210> 271  
 <211> 170  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 271  
 Ile Arg Gly Arg Val Asp Cys Gly Gly Ala Ser Cys His Asn Thr Leu  
 1 5 10 15  
 Gly Ser Tyr Lys Cys Met Cys Pro Ala Gly Phe Gln Tyr Glu Gln Phe  
 20 25 30  
 Ser Gly Gly Cys Gln Asp Ile Asn Glu Cys Gly Ser Ala Gln Ala Pro  
 35 40 45  
 Cys Ser Tyr Gly Cys Ser Asn Thr Glu Gly Gly Tyr Leu Cys Gly Cys

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Pro | Pro | Gly | Tyr | Phe | Arg | Ile | Gly | Gln | Gly | His | Cys | Val | Ser | Gly | Met |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Gly | Met | Gly | Arg | Gly | Asn | Pro | Glu | Pro | Pro | Val | Ser | Gly | Glu | Met | Asp |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Asp | Asn | Ser | Leu | Ser | Pro | Glu | Ala | Cys | Tyr | Glu | Cys | Lys | Ile | Asn | Gly |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Tyr | Pro | Lys | Arg | Gly | Arg | Lys | Arg | Arg | Ser | Thr | Asn | Glu | Thr | Asp | Ala |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ser | Asn | Ile | Glu | Asp | Gln | Ser | Glu | Thr | Glu | Ala | Asn | Val | Ser | Leu | Ala |  |  |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Ser | Trp | Asp | Val | Glu | Lys | Thr | Ala | Ile | Phe | Ala | Phe | Asn | Ile | Ser | His |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Val | Ser | Asn | Lys | Val | Arg | Ile | Leu | Leu | Leu |     |     |     |     |     |     |  |  |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     |     |     |  |  |

<210> 272  
 <211> 130  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 272

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ile | Arg | Gly | Arg | Val | Asp | Gly | Asp | Val | Tyr | Asn | Pro | Ser | Thr | Gly | Val |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Phe | Thr | Ala | Pro | Tyr | Asp | Gly | Arg | Tyr | Leu | Ile | Thr | Ala | Thr | Leu | Thr |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Pro | Glu | Arg | Asp | Ala | Tyr | Val | Glu | Ala | Val | Leu | Ser | Val | Ser | Asn | Ala |  |  |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Ser | Ser | Gly | Pro | Ala | Ala | Tyr | Arg | Trp | Val | Gln | Glu | Arg | Val | Pro | Gly |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Ile | Pro | Pro | Pro | Ser | Arg | Ser | Phe | Ala | Tyr | Leu | Arg | Gly | Pro | Gly | Gly |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Ile | Pro | Pro | His | Arg | Ala | Pro | Glu | Gly | Gly | Arg | Cys | Ser | Gln | Arg | Arg |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Gly | Asp | Trp | Gly | Gln | Ala | Gly | Ser | His | Arg | Leu | Asn | Val | Leu | His | Ile |  |  |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |  |  |
| Trp | Gly | Phe | Leu | Ile | Ser | Phe | Pro | Phe | Pro | Pro | Leu | Arg | Trp | Leu | Gly |  |  |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Arg | Cys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     | 130 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 273  
 <211> 143  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 273

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ile | Arg | Gly | Arg | Val | Asp | Lys | Glu | Lys | Lys | Lys | Val | Phe | Thr | Leu | Gly |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Cys | Gly | Thr | Ile | Ser | Gly | Leu | Pro | Glu | Gly | Phe | Pro | Leu | Glu | Leu | Pro |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Glu | Phe | Pro | Pro | Gly | His | Phe | Val | Ser | Arg | Ser | Gln | Arg | Gln | Ala | Gly |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Tyr | Ala | Pro | Gly | Arg | Ala | Val | Gly | Ala | Thr | Leu | Ala | Asp | Cys | Ser | Pro |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Leu | Leu | His | Leu | Leu | Pro | Ala | Ile | His | Pro | Gln | Glu | Val | Phe | Pro | Gln |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| His | Trp | Leu | Val | Arg | Ser | Ser | Leu | Cys | Pro | Gly | Glu | Asn | Gly | Ser | Ser |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Gly | Ser | Gln | Ala | Pro | Leu | Gln | Gly | Leu | Arg | Gly | Ile | Phe | Gly | Leu | Trp |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Gly | Arg | Arg | Ser | Arg | Ala | Arg | Phe | Cys | Gly | Pro | Arg | Pro | Val | Ala | Arg |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Leu | Gly | Gly | Gly | Thr | Ser | Ala | Gly | Arg | Glu | Leu | Gly | Leu | Thr | Pro |     |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |

<210> 274  
 <211> 131  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Ile | Arg | Gly | Arg | Val | Asp | Gly | Asp | Asx | Val | Tyr | Asn | Pro | Ser | Thr | Gly |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Val | Phe | Thr | Ala | Pro | Tyr | Asp | Gly | Arg | Tyr | Leu | Ile | Thr | Ala | Thr | Leu |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Thr | Pro | Glu | Arg | Asp | Ala | Tyr | Val | Glu | Ala | Val | Leu | Ser | Val | Ser | Asn |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Ala | Ser | Ser | Gly | Pro | Ala | Ala | Tyr | Arg | Trp | Val | Trp | Glu | Arg | Val | Pro |  |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Gly | Ile | Pro | Pro | Pro | Ser | Arg | Ser | Phe | Ala | Tyr | Leu | Arg | Gly | Pro | Gly |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Gly | Ile | Pro | Pro | His | Arg | Ala | Pro | Glu | Gly | Gly | Arg | Cys | Ser | Gln | Arg |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Arg | Gly | Asp | Trp | Gly | Gln | Ala | Gly | Ser | His | Arg | Leu | Asn | Val | Leu | His |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Ile | Trp | Gly | Phe | Leu | Ile | Ser | Phe | Pro | Phe | Pro | Pro | Leu | Arg | Trp | Leu |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Gly | Arg | Cys |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|     | 130 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 275  
 <211> 168  
 <212> PRT  
 <213> Pseudomonas aeruginosa

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Ile | Arg | Gly | Arg | Val | Asp | Arg | Asn | Cys | Gln | Asp | Ile | Asp | Glu | Cys | Val |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Thr | Gly | Ile | His | Asn | Cys | Ser | Ile | Asn | Glu | Thr | Cys | Phe | Asn | Ile | Gln |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Gly | Gly | Phe | Arg | Cys | Leu | Ala | Phe | Glu | Cys | Pro | Glu | Asn | Tyr | Arg | Arg |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Ser | Ala | Ala | Thr | Leu | Gln | Gln | Glu | Lys | Thr | Asp | Thr | Val | Arg | Cys | Ile |  |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Lys | Ser | Cys | Arg | Pro | Asn | Asp | Val | Thr | Cys | Val | Phe | Asp | Pro | Val | His |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Thr | Ile | Ser | His | Thr | Val | Ile | Ser | Leu | Pro | Thr | Phe | Arg | Glu | Phe | Thr |  |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Arg | Pro | Glu | Glu | Ile | Ile | Phe | Leu | Arg | Ala | Ile | Thr | Pro | Pro | His | Pro |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Ala | Ser | Gln | Ala | Asn | Ile | Ile | Phe | Asp | Ile | Thr | Glu | Gly | Asn | Leu | Arg |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Asp | Ser | Phe | Asp | Ile | Ile | Lys | Arg | Tyr | Met | Asp | Gly | Met | Thr | Val | Gly |  |

|   |     |     |  |     |
|---|-----|-----|--|-----|
| 130   |     | 135 |  | 140 |
| Val Val Arg Gln Val Arg Pro Ile Val Gly Pro Phe His Ala Val Leu |     |     |  |     |
| 145   |     | 150 |  | 155 |
| Lys Leu Glu Met Asn Tyr Val Val                                 |     |     |  | 160 |
|   | 165 |     |  |     |

<210> 276  
 <211> 145  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 276

|   |     |
|---|-----|
| Ile Arg Gly Arg Val Asp Thr Leu Gln Ser Asn Ala Pro Ser Ser Met |     |
| 1   | 5   |
| Met Val Lys Asp Glu Tyr Val His Asp Phe Glu Gly Gln Pro Ser Leu | 10  |
|   | 20  |
| Ser Thr Glu Gly His Ser Ile Gln Thr Ile Gln His Pro Pro Ser Asn | 25  |
|   | 30  |
| Arg Ala Ser Thr Glu Thr Tyr Ser Thr Pro Ala Leu Leu Ala Pro Ser | 35  |
|   | 40  |
| Glu Ser Asn Ala Thr Ser Thr Ala Asn Phe Pro Asn Ile Pro Val Ala | 45  |
|   | 50  |
| Ser Thr Ser Gln Pro Ala Ser Ile Leu Gly Gly Ser His Ser Glu Gly | 55  |
|   | 60  |
| Leu Leu Gln Ile Ala Ser Gly Pro Gln Pro Gly Gln Gln Gln Asn Gly | 65  |
|   | 70  |
| Phe Thr Gly Gln Pro Ala Thr Tyr His His Asn Ser Thr Thr Thr Trp | 75  |
|   | 80  |
| Thr Gly Ser Arg Thr Ala Pro Tyr Thr Pro Asn Leu Pro His His Gln | 85  |
|   | 90  |
| Lys   | 95  |
| 145   | 100 |
|   | 105 |
|   | 110 |
|   | 115 |
|   | 120 |
|   | 125 |
|   | 130 |
|   | 135 |
|   | 140 |

<210> 277  
 <211> 139  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 277

|   |     |
|---|-----|
| Ile Arg Gly Arg Val Asp Arg Arg Pro Arg Ser Gly Gly Leu Arg Ala |     |
| 1   | 5   |
| Arg Gly Val Glu Ala Phe Ala Pro Gly Leu Arg Ser Val Ala Pro Gly | 10  |
|   | 20  |
| Pro Glu Pro Leu Lys Gln Glu Gly Arg Arg Glu Trp Gly Ser Ser     | 25  |
|   | 30  |
| Ile Gly Thr Pro Ser Pro Cys Gly Ser Ala Gln Ala Ala Ala Glu     | 35  |
|   | 40  |
| Glu Ala Thr Glu Lys Met Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala | 45  |
|   | 50  |
| Leu Leu Ala Leu Trp Leu Cys Cys Ala Thr Pro Ala His Ala Gln Cys | 55  |
|   | 60  |
| Arg Asp Gly Tyr Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr | 65  |
|   | 70  |
| His Asn Gly Thr Gly Tyr Cys Lys Cys Pro Gly Phe Leu Gly Glu Tyr | 75  |
|   | 80  |
| Cys Gln His Arg Pro Cys Glu Lys Asn Arg Cys                     | 85  |
|   | 90  |
|   | 95  |
|   | 100 |
|   | 105 |
|   | 110 |
|   | 115 |
|   | 120 |
|   | 125 |
|   | 130 |
|   | 135 |

<210> 278  
 <211> 953  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 278

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | Asn | Ser | His | Leu | Leu | Tyr | Arg | Leu | Ser | Tyr | Arg | Gly | Thr | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Phe | Gln | Pro | Trp | Thr | Leu | Pro | Val | Leu | Leu | Asp | Ser | Arg | Leu | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Ala | Pro | Phe | Tyr | Gly | Cys | Ala | Arg | Ala | Cys | Gln | Pro | Ser | Asp | Pro |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Lys | Ser | Phe | Ser | Ser | Phe | Ser | Thr | Ser | Asp | Lys | Thr | Ala | Leu | Pro | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| His | Ala | Ala | Ala | Leu | Ser | Arg | Leu | Pro | Asp | Ala | His | Glu | Lys | Ala | Pro |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Pro | Lys | Arg | Gly | Phe | Pro | Cys | Pro | Pro | Pro | Lys | Arg | Ser | Gly | Glu | Asp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Asp | Leu | Val | Ala | Phe | His | Leu | Arg | Arg | Asp | Thr | Gly | Thr | Arg | Arg | Glu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Ala | Gly | Gln | Asp | Gln | Leu | Arg | Gln | Arg | Val | Leu | Asp | Pro | Ala | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Gly | Pro | Leu | Gln | Arg | Ala | Cys | Ala | Ile | Asp | Arg | Val | Glu | Ala | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| Gly | Asn | Gln | Leu | Val | Gln | Arg | Leu | Leu | Ala | Gln | Phe | Gln | Ala | Gln | Leu |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Ala | Leu | Gly | Gln | Ala | Leu | Ala | Gln | Ala | Thr | Glu | Leu | Asp | Leu | Gly | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ala | Gly | Asp | Leu | Leu | Ala | Ser | Gln | Arg | Leu | Glu | His | His | His | Phe | Val |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Pro | Val | Asp | Glu | Phe | Arg | Thr | Glu | Val | Arg | Ile | Asp | Arg | Val | His |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| His | Cys | Gly | Thr | Leu | Arg | Leu | Ala | Val | Ala | Gly | Gln | Leu | Leu | Asp | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Arg | Thr | Glu | Val | Gly | Gly | His | His | His | His | Gly | Val | Ala | Glu | Val |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| His | Arg | Thr | Pro | Val | Thr | Val | Gly | Gln | Ala | Ser | Val | Leu | Glu | His | Leu |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Glu | Glu | Asn | Val | Glu | Tyr | Ile | Arg | Met | Gly | Leu | Leu | His | Leu | Val | Gln |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Gln | His | His | Arg | Val | Gly | Leu | Ala | Ala | Asp | Arg | Leu | Gly | Gln | Val | Ala |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Ala | Phe | Leu | Glu | Ala | Asp | Val | Ala | Arg | Arg | Arg | Ala | Asp | Gln | Ala | Gly |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| His | Arg | Val | Phe | Leu | His | Glu | Leu | Gly | His | Ile | Tyr | Pro | His | Gln | Arg |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Leu | Leu | Gly | Ile | Glu | Glu | Leu | Gly | Gln | Arg | Leu | Ala | Gln | Leu | Gly |     |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Leu | Ala | His | Pro | Gly | Arg | Ala | Glu | Glu | Glu | Arg | Ala | Ala | Arg | Pro |     |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
| Val | Arg | Ile | Gly | Glu | Ala | Gly | Ala | Arg | Thr | Ala | His | Gly | Val | Gly | His |
|     |     | 355 |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Gly | Asp | Tyr | Arg | Leu | Val | Leu | Ala | Asp | His | Ser | Pro | Met | Gln | Leu | Leu |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Leu | His | Ala | Gln | Gln | Leu | Leu | Ala | Leu | Ala | Leu | Glu | His | Leu | Arg | His |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Arg | Asp | Thr | Gly | Pro | Leu | Gly | Asn | His | Phe | Gly | Asp | Phe | Leu | Val | Gly |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |

His Leu Val Ala Gln Gln Leu Val Leu Gly Leu Ala Val Leu Val Asp  
 420 425 430  
 His Leu Gln Ala Ala Phe Gln Val Arg Asp Gly Leu Val Leu Asp Ala  
 435 440 445  
 Arg His Ala Leu Glu Val Ala Leu Ala Pro Arg Arg Leu His Leu Leu  
 450 455 460  
 Leu Gly Leu Leu Asp Leu Leu Leu Asp Leu Arg Arg Ala Leu His Leu  
 465 470 475 480  
 Gly Leu Leu Gly Leu Pro Asp Leu Leu Glu Val Gly Val Phe Ala Leu  
 485 490 495  
 Glu Leu Asp Asp Ile Leu Leu Gln Leu Gly Gln Ala Leu Pro Gly Gly  
 500 505 510  
 Phe Val Val Phe Leu Leu Gln Arg Leu Ala Leu Asp Leu Gln Leu Asp  
 515 520 525  
 Gln Ala Thr Val Glu Thr Ile Gln Phe Leu Arg Leu Gly Val Asp Leu  
 530 535 540  
 His Ala Asp Ala Ala Gly Gly Leu Val Asp Gln Val Asp Gly Leu Val  
 545 550 555 560  
 Arg Gln Leu Pro Ile Gly Asp Val Ala Val Arg Gln Leu Gly Arg Gly  
 565 570 575  
 Asp Asp Arg Ala Val Gly Asp Ala His Pro Val Val His Phe Ile Ala  
 580 585 590  
 Phe Leu Glu Ala Thr Glu Asp Gly Asp Gly Val Phe Leu Ala Arg Phe  
 595 600 605  
 Val His Gln His Leu Leu Glu Ala Ala Leu Gln Arg Gly Ile Leu Leu  
 610 615 620  
 Asp Val Leu Ala Ile Leu Val Glu Gly Ser Ser Thr Asp Ala Val Gln  
 625 630 635 640  
 Leu Ala Ala Arg Gln Ser Arg Leu Glu His Val Ala Gly Val His Gly  
 645 650 655  
 Thr Phe Arg Leu Ala Gly Ala Asp His Gly Val Gln Phe Val Asp Glu  
 660 665 670  
 Gln Asp Asp Pro Ala Phe Leu Leu Ala Gln Phe Val Glu Asp Arg Leu  
 675 680 685  
 Gln Ala Phe Leu Glu Leu Ala Ala Glu Leu Gly Thr Gly Asp Gln Arg  
 690 695 700  
 Pro His Val Gln Gly Gln Gln Ala Leu Val Leu Glu Ala Val Arg His  
 705 710 715 720  
 Phe Ala Val Asp Asp Ala Leu Gly Gln Ala Leu Asp Asp Gly Gly Leu  
 725 730 735  
 Ala Asp Ala Gly Phe Ala Asp Gln His Arg Val Val Leu Gly Pro Pro  
 740 745 750  
 Leu Gln Asp Leu Asp Gly Pro Ala Asp Leu Val Val Ala Thr Asp His  
 755 760 765  
 Arg Val Glu Leu Ala Phe Leu Gly Ala Leu Gly His Val Asp Gly Val  
 770 775 780  
 Leu Val Gln Arg Leu Ala Arg Leu Leu Asp Val Arg Val Val His Arg  
 785 790 795 800  
 Phe Ala Ala Thr Gln Val Gly His Gly Ile Leu Gln Arg Leu Ala Arg  
 805 810 815  
 His Ala Leu Ala Glu Gln Gln Leu Ala Glu Pro Gly Val Leu Val His  
 820 825 830  
 Arg Gly Gln Gln Tyr Gln Leu Ala Gly Asp Glu Leu Val Ala Leu Leu  
 835 840 845  
 Leu Gly Gln Ala Val Ser Leu Val Glu Gln Ala Cys Glu Ile Leu Gly  
 850 855 860  
 Gln Val His Val Ala Gly Arg Ala Leu Asp Leu Arg Gln Arg Val Glu  
 865 870 875 880  
 Phe Phe Val Glu Ala Ala Ala Gln Gly Gly Asp Ile Glu Ala Asp Leu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |  |  |
| His | Gln | Gln | Gly | Leu | Asp | Arg | Thr | Ala | Leu | Leu | Leu | Glu | Gln | Gly | Gly |  |  |
|     |     |     | 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |  |  |
| Lys | Gln | Val | His | Arg | Leu | Asp | Gly | Arg | Met | Val | Met | Ala | Asn | Gly | Gln |  |  |
|     |     | 915 |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |  |  |
| Gly | Leu | Gly | Val | Gly | Glu | Arg | Gln | Leu | Gln | Leu | Ala | Gly | Gln | Thr | Val |  |  |
|     | 930 |     |     |     |     | 935 |     |     |     |     | 940 |     |     |     |     |  |  |
| Tyr | Ser | His | Gly | Ser | Ser | Phe | Leu | Leu |     |     |     |     |     |     |     |  |  |
| 945 |     |     |     |     | 950 |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 279  
 <211> 854  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 279

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Arg | Ile | Asp | Arg | Leu | Thr | Ser | Lys | Leu | Gln | Leu | Ala | Leu | Ser | Asp |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Ala | Gln | Ser | Leu | Ala | Val | Gly | His | Asp | His | Pro | Ala | Ile | Glu | Pro | Val |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| His | Leu | Leu | Ser | Ala | Leu | Leu | Glu | Gln | Gln | Gly | Gly | Ser | Ile | Lys | Pro |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Leu | Leu | Met | Gln | Val | Gly | Phe | Asp | Ile | Ala | Ala | Leu | Arg | Ser | Gly | Leu |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Asn | Lys | Glu | Leu | Asp | Ala | Leu | Pro | Lys | Ile | Gln | Ser | Pro | Thr | Gly | Asp |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Val | Asn | Leu | Ser | Gln | Asp | Leu | Ala | Arg | Leu | Leu | Asn | Gln | Ala | Asp | Arg |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Leu | Ala | Gln | Gln | Lys | Gly | Asp | Gln | Phe | Ile | Ser | Ser | Glu | Leu | Val | Leu |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |  |  |
| Leu | Ala | Ala | Met | Asp | Glu | Asn | Thr | Arg | Leu | Gly | Lys | Leu | Leu | Leu | Gly |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Gln | Gly | Val | Ser | Arg | Lys | Ala | Leu | Glu | Asn | Ala | Val | Ala | Asn | Leu | Arg |  |  |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |  |  |
| Gly | Gly | Glu | Ala | Val | Asn | Asp | Pro | Asn | Val | Glu | Glu | Ser | Arg | Gln | Ala |  |  |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |  |  |
| Leu | Asp | Lys | Tyr | Thr | Val | Asp | Met | Thr | Lys | Arg | Ala | Glu | Glu | Gly | Lys |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Leu | Asp | Pro | Val | Ile | Gly | Arg | Asp | Asp | Glu | Ile | Arg | Arg | Thr | Ile | Gln |  |  |
|     | 180 |     |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Val | Leu | Gln | Arg | Arg | Thr | Lys | Asn | Asn | Pro | Val | Leu | Ile | Gly | Glu | Pro |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |
| Gly | Val | Gly | Lys | Thr | Ala | Ile | Val | Glu | Gly | Leu | Ala | Gln | Arg | Ile | Ile |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Asn | Gly | Glu | Val | Pro | Asp | Gly | Leu | Lys | Asp | Lys | Arg | Leu | Leu | Ala | Leu |  |  |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     | 240 |  |  |
| Asp | Met | Gly | Ala | Leu | Ile | Ala | Gly | Ala | Lys | Phe | Arg | Gly | Glu | Phe | Glu |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Glu | Arg | Leu | Lys | Ala | Val | Leu | Asn | Glu | Leu | Gly | Lys | Gln | Glu | Gly | Arg |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |  |  |
| Val | Ile | Leu | Phe | Ile | Asp | Glu | Leu | His | Thr | Met | Val | Gly | Ala | Gly | Lys |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Ala | Glu | Gly | Ala | Met | Asp | Ala | Gly | Asn | Met | Leu | Lys | Pro | Ala | Leu | Ala |  |  |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |  |  |
| Arg | Gly | Glu | Leu | His | Cys | Val | Gly | Ala | Thr | Thr | Leu | Asp | Glu | Tyr | Arg |  |  |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     |     | 320 |  |  |
| Gln | Tyr | Ile | Glu | Lys | Asp | Ala | Ala | Leu | Glu | Arg | Arg | Phe | Gln | Lys | Val |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |  |  |

Leu Val Asp Glu Pro Ser Glu Glu Asp Thr Ile Ala Ile Leu Arg Gly  
 340 345 350  
 Leu Lys Glu Arg Tyr Glu Val His His Gly Val Ser Ile Thr Asp Gly  
 355 360 365  
 Ala Ile Ile Ala Ala Ala Lys Leu Ser His Arg Tyr Ile Thr Asp Arg  
 370 375 380  
 Gln Leu Pro Asp Lys Ala Ile Asp Leu Ile Asp Glu Ala Ala Ser Arg  
 385 390 395 400  
 Ile Arg Met Glu Ile Asp Ser Lys Pro Glu Glu Leu Asp Arg Leu Asp  
 405 410 415  
 Arg Arg Leu Ile Gln Leu Lys Ile Glu Arg Glu Ala Leu Lys Lys Glu  
 420 425 430  
 Asp Asp Glu Ala Thr Arg Lys Arg Leu Ala Lys Leu Glu Glu Asp Ile  
 435 440 445  
 Val Lys Leu Glu Arg Glu Tyr Ala Asp Leu Glu Glu Ile Trp Lys Ser  
 450 455 460  
 Glu Lys Ala Glu Val Gln Gly Ser Ala Gln Ile Gln Gln Lys Ile Glu  
 465 470 475 480  
 Gln Ala Lys Gln Glu Met Glu Ala Ala Arg Arg Lys Gly Asp Leu Glu  
 485 490 495  
 Ser Met Ala Arg Ile Gln Tyr Gln Thr Ile Pro Asp Leu Glu Arg Ser  
 500 505 510  
 Leu Gln Met Val Asp Gln His Gly Lys Thr Glu Asn Gln Leu Leu Arg  
 515 520 525  
 Asn Lys Val Thr Asp Glu Glu Ile Ala Glu Val Val Ser Lys Trp Thr  
 530 535 540  
 Gly Ile Pro Val Ser Lys Met Leu Glu Gly Glu Arg Glu Lys Leu Leu  
 545 550 555 560  
 Arg Met Glu Gln Glu Leu His Arg Arg Val Ile Gly Gln Asp Glu Ala  
 565 570 575  
 Val Val Ala Val Ser Asn Ala Val Arg Arg Ser Arg Ala Gly Leu Ala  
 580 585 590  
 Asp Pro Asn Arg Pro Ser Gly Ser Phe Leu Phe Leu Gly Pro Thr Gly  
 595 600 605  
 Val Gly Lys Thr Glu Leu Cys Lys Ala Leu Ala Glu Phe Leu Phe Asp  
 610 615 620  
 Thr Glu Glu Ala Leu Val Arg Ile Asp Met Ser Glu Phe Met Glu Lys  
 625 630 635 640  
 His Ser Val Ala Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val Gly Phe  
 645 650 655  
 Glu Glu Gly Gly Tyr Leu Thr Glu Ala Ile Arg Arg Lys Pro Tyr Ser  
 660 665 670  
 Val Val Leu Leu Asp Glu Val Glu Lys Ala His Pro Asp Val Phe Asn  
 675 680 685  
 Ile Leu Leu Gln Val Leu Glu Asp Gly Arg Leu Thr Asp Ser His Gly  
 690 695 700  
 Arg Thr Val Asp Phe Arg Asn Thr Val Val Val Met Thr Ser Asn Leu  
 705 710 715 720  
 Gly Ser Ala Gln Ile Gln Glu Leu Ala Gly Asp Arg Glu Ala Gln Arg  
 725 730 735  
 Ala Ala Val Met Asp Ala Val Asn Ala His Phe Arg Pro Glu Phe Ile  
 740 745 750  
 Asn Arg Ile Asp Glu Val Val Val Phe Glu Pro Leu Ala Arg Glu Gln  
 755 760 765  
 Ile Ala Gly Ile Ala Glu Ile Gln Leu Gly Arg Leu Arg Lys Arg Leu  
 770 775 780  
 Ala Glu Arg Glu Leu Ser Leu Glu Leu Ser Gln Glu Ala Leu Asp Lys  
 785 790 795 800  
 Leu Ile Ala Val Gly Phe Asp Pro Val Tyr Gly Ala Arg Pro Leu Lys

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     | 815 |     |     |  |
| Arg | Ala | Ile | Gln | Arg | Trp | Ile | Glu | Asn | Pro | Leu | Ala | Gln | Leu | Ile | Leu |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |
| Ala | Gly | Lys | Phe | Ala | Pro | Gly | Ala | Ser | Ile | Ser | Ala | Lys | Val | Glu | Gly |  |
|     |     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |  |
| Asp | Glu | Ile | Val | Phe | Ala |     |     |     |     |     |     |     |     |     |     |  |
|     | 850 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 280  
 <211> 967  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 280

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Leu | Glu | Phe | Gly | Ser | Ala | Thr | Trp | Thr | Arg | Thr | Arg | Asp | Pro | Met | Ile |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Asn | Ser | His | Leu | Leu | Tyr | Arg | Leu | Ser | Tyr | Arg | Gly | Thr | Ser | Phe | Phe |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Gln | Pro | Trp | Thr | Leu | Pro | Val | Leu | Leu | Asp | Ser | Arg | Leu | Arg | Gly | Ala |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Pro | Phe | Tyr | Gly | Cys | Ala | Arg | Ala | Cys | Gln | Pro | Ser | Asp | Pro | Lys | Ser |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Phe | Ser | Ser | Phe | Ser | Thr | Ser | Asp | Lys | Thr | Ala | Leu | Pro | Leu | His | Ala |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Ala | Ala | Leu | Ser | Arg | Leu | Pro | Asp | Ala | His | Glu | Lys | Ala | Pro | Pro | Lys |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Arg | Gly | Phe | Pro | Cys | Pro | Pro | Pro | Lys | Arg | Ser | Gly | Glu | Asp | Asp | Leu |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Val | Ala | Phe | His | Leu | Arg | Arg | Asp | Thr | Gly | Thr | Arg | Arg | Glu | Phe | Ala |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Gly | Gln | Asp | Gln | Leu | Arg | Gln | Arg | Val | Leu | Asp | Pro | Ala | Leu | Asp | Gly |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Pro | Leu | Gln | Arg | Ala | Cys | Ala | Ile | Asp | Arg | Val | Glu | Ala | Asp | Gly | Asn |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Gln | Leu | Val | Gln | Arg | Leu | Leu | Ala | Gln | Phe | Gln | Ala | Gln | Leu | Ala | Leu |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |  |
| Gly | Gln | Ala | Leu | Ala | Gln | Ala | Thr | Glu | Leu | Asp | Leu | Gly | Asp | Ala | Gly |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Asp | Leu | Leu | Ala | Ser | Gln | Arg | Leu | Glu | His | His | His | Phe | Val | Asp | Pro |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Val | Asp | Glu | Phe | Arg | Thr | Glu | Val | Arg | Ile | Asp | Arg | Val | His | His | Cys |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| Gly | Thr | Leu | Arg | Leu | Ala | Val | Ala | Gly | Gln | Leu | Leu | Asp | Leu | Arg | Arg |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Thr | Glu | Val | Gly | Gly | His | His | His | His | Gly | Val | Ala | Glu | Val | His | Arg |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| Thr | Pro | Val | Thr | Val | Gly | Gln | Ala | Ser | Val | Leu | Glu | His | Leu | Glu | Glu |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |  |
| Asn | Val | Glu | Tyr | Ile | Arg | Met | Gly | Leu | Leu | His | Leu | Val | Gln | Gln | His |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |  |
| His | Arg | Val | Gly | Leu | Ala | Ala | Asp | Arg | Leu | Gly | Gln | Val | Ala | Ala | Phe |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Leu | Glu | Ala | Asp | Val | Ala | Arg | Arg | Arg | Ala | Asp | Gln | Ala | Gly | His | Arg |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |
| Val | Phe | Leu | His | Glu | Leu | Gly | His | Ile | Tyr | Pro | His | Gln | Arg | Leu | Leu |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |
| Gly | Ile | Glu | Glu | Glu | Leu | Gly | Gln | Arg | Leu | Ala | Gln | Leu | Gly | Leu | Ala |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| His | Pro | Gly | Arg | Ala | Glu | Glu | Glu | Glu | Arg | Ala | Ala | Arg | Pro | Val | Arg |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     | 365 |     |     |     |     |  |
| Ile | Gly | Glu | Ala | Gly | Ala | Arg | Thr | Ala | His | Gly | Val | Gly | His | Gly | Asp |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Tyr | Arg | Leu | Val | Leu | Ala | Asp | His | Ser | Pro | Met | Gln | Leu | Leu | Leu | His |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Ala | Gln | Gln | Leu | Leu | Ala | Leu | Ala | Leu | Glu | His | Leu | Arg | His | Arg | Asp |  |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |  |
| Thr | Gly | Pro | Leu | Gly | Asn | His | Phe | Gly | Asp | Phe | Leu | Val | Gly | His | Leu |  |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Val | Ala | Gln | Gln | Leu | Val | Leu | Gly | Leu | Ala | Val | Leu | Val | Asp | His | Leu |  |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Gln | Ala | Ala | Phe | Gln | Val | Arg | Asp | Gly | Leu | Val | Leu | Asp | Ala | Arg | His |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Ala | Leu | Glu | Val | Ala | Leu | Ala | Pro | Arg | Arg | Leu | His | Leu | Leu | Leu | Gly |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |
| Leu | Leu | Asp | Leu | Leu | Leu | Asp | Leu | Arg | Arg | Ala | Leu | His | Leu | Gly | Leu |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |  |
| Leu | Gly | Leu | Pro | Asp | Leu | Leu | Glu | Val | Gly | Val | Phe | Ala | Leu | Glu | Leu |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |
| Asp | Asp | Ile | Leu | Leu | Gln | Leu | Gly | Gln | Ala | Leu | Pro | Gly | Gly | Phe | Val |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |
| Val | Phe | Leu | Leu | Gln | Arg | Leu | Ala | Leu | Asp | Leu | Gln | Leu | Asp | Gln | Ala |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |
| Thr | Val | Glu | Thr | Ile | Gln | Phe | Leu | Arg | Leu | Gly | Val | Asp | Leu | His | Ala |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |
| Asp | Ala | Ala | Gly | Gly | Leu | Val | Asp | Gln | Val | Asp | Gly | Leu | Val | Arg | Gln |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     | 575 |     |  |
| Leu | Pro | Ile | Gly | Asp | Val | Ala | Val | Arg | Gln | Leu | Gly | Arg | Gly | Asp | Asp |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |
| Arg | Ala | Val | Gly | Asp | Ala | His | Pro | Val | Val | His | Phe | Ile | Ala | Phe | Leu |  |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |
| Glu | Ala | Thr | Glu | Asp | Gly | Asp | Gly | Val | Phe | Leu | Ala | Arg | Phe | Val | His |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |
| Gln | His | Leu | Leu | Glu | Ala | Ala | Leu | Gln | Arg | Gly | Ile | Leu | Leu | Asp | Val |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |
| Leu | Ala | Ile | Leu | Val | Glu | Gly | Ser | Ser | Thr | Asp | Ala | Val | Gln | Leu | Ala |  |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     | 655 |     |  |
| Ala | Arg | Gln | Ser | Arg | Leu | Glu | His | Val | Ala | Gly | Val | His | Gly | Thr | Phe |  |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |
| Arg | Leu | Ala | Gly | Ala | Asp | His | Gly | Val | Gln | Phe | Val | Asp | Glu | Gln | Asp |  |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |
| Asp | Pro | Ala | Phe | Leu | Leu | Ala | Gln | Phe | Val | Glu | Asp | Arg | Leu | Gln | Ala |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |
| Phe | Leu | Glu | Leu | Ala | Ala | Glu | Leu | Gly | Thr | Gly | Asp | Gln | Arg | Pro | His |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |
| Val | Gln | Gly | Gln | Gln | Ala | Leu | Val | Leu | Glu | Ala | Val | Arg | His | Phe | Ala |  |
|     |     |     | 725 |     |     |     |     |     | 730 |     |     |     |     | 735 |     |  |
| Val | Asp | Asp | Ala | Leu | Gly | Gln | Ala | Leu | Asp | Asp | Gly | Gly | Leu | Ala | Asp |  |
|     |     | 740 |     |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |
| Ala | Gly | Phe | Ala | Asp | Gln | His | Arg | Val | Val | Leu | Gly | Pro | Pro | Leu | Gln |  |
|     | 755 |     |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |
| Asp | Leu | Asp | Gly | Pro | Ala | Asp | Leu | Val | Val | Ala | Thr | Asp | His | Arg | Val |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |
| Glu | Leu | Ala | Phe | Leu | Gly | Ala | Leu | Gly | His | Val | Asp | Gly | Val | Leu | Val |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |
| Gln | Arg | Leu | Ala | Arg | Leu | Leu | Asp | Val | Arg | Val | Val | His | Arg | Phe | Ala |  |
|     |     |     | 805 |     |     |     |     |     | 810 |     |     |     |     | 815 |     |  |
| Ala | Thr | Gln | Val | Gly | His | Gly | Ile | Leu | Gln | Arg | Leu | Ala | Arg | His | Ala |  |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 820 |     | 825 |     | 830 |     |     |     |     |     |     |     |     |     |     |
| Leu | Ala | Glu | Gln | Gln | Leu | Ala | Glu | Pro | Gly | Val | Leu | Val | His | Arg | Gly |
|     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |     |
| Gln | Gln | Tyr | Gln | Leu | Ala | Gly | Asp | Glu | Leu | Val | Ala | Leu | Leu | Leu | Gly |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |
| Gln | Ala | Val | Ser | Leu | Val | Glu | Gln | Ala | Cys | Glu | Ile | Leu | Gly | Gln | Val |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |
| His | Val | Ala | Gly | Arg | Ala | Leu | Asp | Leu | Arg | Gln | Arg | Val | Glu | Phe | Phe |
|     |     |     | 885 |     |     |     |     |     | 890 |     |     |     |     | 895 |     |
| Val | Glu | Ala | Ala | Ala | Gln | Gly | Gly | Asp | Ile | Glu | Ala | Asp | Leu | His | Gln |
|     |     |     | 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |
| Gln | Gly | Leu | Asp | Arg | Thr | Ala | Leu | Leu | Leu | Glu | Gln | Gly | Gly | Lys | Gln |
|     | 915 |     |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |
| Val | His | Arg | Leu | Asp | Gly | Arg | Met | Val | Met | Ala | Asn | Gly | Gln | Gly | Leu |
|     | 930 |     |     |     |     | 935 |     |     |     |     | 940 |     |     |     |     |
| Gly | Val | Gly | Glu | Arg | Gln | Leu | Gln | Leu | Ala | Gly | Gln | Thr | Val | Tyr | Ser |
| 945 |     |     |     |     | 950 |     |     |     |     | 955 |     |     |     |     | 960 |
| His | Gly | Ser | Ser | Phe | Leu | Leu |     |     |     |     |     |     |     |     |     |
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<210> 281  
 <211> 2904  
 <212> DNA  
 <213> *Pseudomonas aeruginosa*

<400> 281

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```

|            |            |             |            |            |            |      |
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| cggcttgagc | atgttgccgg | cgtccatggc  | accttcgcgc | ttgccggcgc | cgaccatggt | 2040 |
| gtgcagttcg | tcgatgaaca | ggatgacccg  | gccttcctgc | ttgccagatt | cgttgaggac | 2100 |
| cgccttcagg | cgttcctcga | actcgccgcg  | gaacttgga  | ccggcgatca | gcgccccat  | 2160 |
| gtccagggcc | agcaggcgct | tgtccttgag  | gccgtccggc | acttcgccgt | tgatgatgcg | 2220 |
| ctggggcagg | ccctcgacga | tggcggtctt  | gccgacgccg | ggttcgccga | tcagcaccgg | 2280 |
| gttggtcttg | gtccgccgct | gcaggacctg  | gatggtccgg | cggatctcgt | cgtcgcgacc | 2340 |
| gatcaccggg | tcgagcttgc | cttcctcggc  | gcgcttggtc | atgtcgacgg | tgtacttgtc | 2400 |
| cagcgcctgg | cgcgactcct | cgacgttcgg  | gtcgttcacc | gcttcgccgc | cacgcagggt | 2460 |
| ggccacggca | ttctccagcg | ccttgccgca  | cacgccctgg | ccgagcagca | gcttgccgag | 2520 |
| cctggtgttc | tcgtccatcg | cggccagcaa  | taccagctcg | ctggagatga | actggtcgcc | 2580 |
| cttctgctgg | gccaggcggt | cagcctgggt  | gagcaggcgt | gcgagatcct | gggacagggt | 2640 |
| cacgtcgccg | gtcgggctct | ggatcttcgg  | cagcgcgtcg | agttctttgt | tgaggccgct | 2700 |
| gcgcagggcg | gcgatatcga | agccgacctg  | catcagcagg | ggcttgatcg | aaccgccttg | 2760 |
| ctgctcgagc | agggcggaag | gcagggtgcac | cggctcgatg | gccggatggt | catggccaac | 2820 |
| ggccagggac | tgggcgtcgg | agagcgccag  | ttgcagcttg | ctggtcaaac | ggtctattcg | 2880 |
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<210> 282

<211> 309

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 282

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| ttggaccaag  | gctacagcca | tatcgacgcc | tgccgttcgc | tgggggtggt | ggattcggcc  | 120 |
| ttgcgcggtt  | gggtgaagca | gctcgaggcg | gagcgccagg | gtgtgacccc | gaagagcaag  | 180 |
| gcgttgacgc  | ctgagcagca | aaagatccag | gagctggaag | cccggatcaa | ccgatggag   | 240 |
| cgggagaaaag | cgatattaaa | aaaggctacc | gctctcttga | tgtcggacga | actcgatcgt  | 300 |
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<210> 283

<211> 1862

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 283

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| caggttttccc | ttgtagtcca | cctcgccgtc | cttggggccaa | cgctgcacct | gctggaagat  | 120  |
| gtagaggccg  | aacgcataga | cgctctctcg | cggaatgtcc  | caccacaacc | gggtgcttcc  | 180  |
| tgagcgcaag  | tcgggcggaa | tgtggatcca | gaggtcctta  | cgggcttccc | agacgcagta  | 240  |
| ggccagcaca  | acgatgacca | tgcacaggaa | gccggtgatg  | aaccggaagg | tgttgatgtg  | 300  |
| tgcttctgtg  | tgcgacgtgt | gttttctgaa | actcatgggg  | actccgtgcg | tcgactgggtc | 360  |
| caggcgccgg  | agcgcgtaac | caggcgacgg | ttgccgaaga  | cgggaaagcg | cagcgagagg  | 420  |
| gccatctcca  | cctggcggtg | gaaccaggta | tcgggcccgc  | cccgttcat  | ccgccgcagg  | 480  |
| acgcggctgc  | cgatacctag | gccgagggcg | ccgaccagca  | gcgcgcccag | tggaatgcag  | 540  |
| gcagcgttac  | ctgcgaccaa | ggcagccggg | atgccaaaga  | cgaaccgggc | tgctccgctg  | 600  |
| gtgaagaccg  | tgatccacat | ttcgtctgcg | gtcaggccgc  | cgatgactac | cggttgccgg  | 660  |
| ttcaaaccgg  | tcggcaggaa | gctgagggtt | ccatcctgaa  | acagatgttc | ttcgggcatg  | 720  |
| ggaaggccct  | tacatgatgg | cggtggtttt | ggtgacgaga  | taaatgatca | agatcagcag  | 780  |
| gccgacacct  | acggctacgc | ccgtccgag  | atccgaccac  | ttcttcttcc | cgatcatggat | 840  |
| ggcgtgatag  | gtgccgtagg | tatgccaaag | gacccccaga  | aagacagccg | cgcagatgag  | 900  |
| cagcgcgagg  | agcatcgctc | cgatcatagc | gaagttctgg  | atggtttgca | tgatgcccga  | 960  |
| tccctcccca  | cggctaggtg | cctcggtttt | ggggagtgca  | gccaaggcga | taccggggag  | 1020 |
| cgccaaagtg  | atggcgccca | ggctctggca | gagggcgagc  | agtttctgga | gggtgagttt  | 1080 |
| cagcatgagt  | gtctccgtat | gggtcagctg | aggaggaaga  | aagaggtgat | gccgaggagg  | 1140 |
| accaagatcc  | gggatcgcg  | aagcgccacc | ggtggcgctg  | tcgaagggtg | ttggtggccc  | 1200 |
| agccgcgcga  | ggtgctgtac | atcgcccagg | cggaccacag  | cagaaggaag | gtcatcgctg  | 1260 |
| ctccaatgaa  | cagtcctcgc | ccggccgatg | ggggaaagcc  | agcggcgggc | tggaaacgctg | 1320 |

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| taagtcggaa | gggtcacgcg | gttgggcgcg  | gctgggcgct | atgtagtcct | gcaggccttg | 1440 |
| gcggtatgcg | tgcaggtcag | cggccaggcg  | cgggtagtcg | aagtagaagc | gctgtccggg | 1500 |
| ctcatcggcg | ccctgggcac | tgcggcgggc  | ggtgtcctcg | agggcggtga | gctgccggat | 1560 |
| catcacctcc | aggttcgcct | gctcggaggc  | gctcgtcgcg | aaagctccct | gtgcgaccag | 1620 |
| cgcactgcag | gccaaagacg | ccaggcagct  | tcggcgaagg | gatggatgtg | gagtgttcac | 1680 |
| ggcgaatctc | gtgcagatca | gggtgcgacg  | agcttgccga | tcgccctgat | tccattccgc | 1740 |
| aagaaatact | cggcgcggtt | ccgggggtatt | tttttatgag | gttgcgcgct | tgaaaaacag | 1800 |
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<210> 284

<211> 1462

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 284

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| cttggcggat | gcgctgcagg  | tcagcggcca  | ggcgcgggta  | gtcgaagtag | aagcgtgtgc  | 120  |
| cgggctcatc | ggcgcccttg  | gcaactgcggc | ggcggtgtgc  | ctcgagggcg | ttgagctgcc  | 180  |
| ggatcatcac | ctccaggttc  | gcctgctcgg  | aggcgctcgc  | tgcgaaagct | ccctgtgcga  | 240  |
| ccagcgcact | gcaggccaag  | acggccaggc  | agcttcggcg  | aagggtatga | tgtggagtgt  | 300  |
| tcacggcgaa | tctcgtgcag  | atcagggtgc  | gatcagcttg  | ccgatcgccc | tgattccatt  | 360  |
| ccgcaagaaa | tactcggcgc  | gggtccgggg  | tattttttta  | tgaggttgcg | cgcttgaaaa  | 420  |
| acagcaggta | gctgcagggc  | agagcgacgc  | cccaagccca  | gccttgggcg | ttttgattac  | 480  |
| cgatctcggt | tacgccccgc  | atgagtggct  | gaacgctcac  | cagctcccag | ccttcctggc  | 540  |
| ccagacgcac | gacctcggcc  | cagcgcagag  | ggttgagcaa  | ggcgtggctg | tcgggttcca  | 600  |
| aggtgtcttc | tttgtgtttg  | aacatcgcg   | cgccttgggt  | gagggttttg | tagggaatga  | 660  |
| cgatgtttct | gacatggtat  | tcgaagggtc  | gttttatgct  | catggtgtgc | tcctggatcg  | 720  |
| gttcgagtag | aaccgcacgg  | tttcaagagc  | aggaggaggg  | cctcaaccga | aaatactagg  | 780  |
| cctagcacca | gtgaattttc  | ggtggttggc  | gggttttagag | acacgtatgg | acgtctgggt  | 840  |
| gtatatattc | tatatatttc  | taaggagagc  | ggctgatgct  | tagaaacatc | tctattggag  | 900  |
| ttttgctagc | catggctgct  | atgttgggca  | gttatggggg  | ggctgccgct | acattacgat  | 960  |
| gcgggctcgc | aattgttagt  | gagggcgact  | tgattgatga  | tgtgcttaga | aagtgcggca  | 1020 |
| accctgatag | ccgtaaaatt  | gaagggcccg  | cagtggatgg  | tagtggctat | atagtgcggg  | 1080 |
| gggctgctac | tgtcgaaaac  | tgggtatatg  | gaccaaggaa  | tggatggtac | cagaagctta  | 1140 |
| ggtttgtcga | tggaagacta  | gttcagataa  | aaggcagtat  | ggactagggt | atagccgtgg  | 1200 |
| atggtgtgtt | ttcatccacg  | gctataagtc  | tcacccggca  | gatgatataa | gggtaaggat  | 1260 |
| atttgcgatt | ggtaggcctt  | gtgcgtcgga  | aataaacacg  | gttgactagg | cgctgcacg   | 1320 |
| ggaaaactat | ctgttgtagg  | ttgttcggat  | tagacatgcc  | accgttgtaa | ttggcttgga  | 1380 |
| attgcttgct | ggaacttgct  | atgtctagaa  | gttcaagtag  | agtgccttgg | ttggcggtat  | 1440 |
| gtgcggagtt | catgctgatt  | ga          |             |            |             | 1462 |

<210> 285

<211> 830

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 285

|            |             |             |             |            |            |     |
|------------|-------------|-------------|-------------|------------|------------|-----|
| tccgcgggga | tgaacgattg  | cctgggtcaaa | ccgggtggatc | tgaatgccct | tcagaactgc | 60  |
| ttgattaata | ttctcaagg   | ggatcgatga  | gctggaaatc  | ctatcggttg | ctgggtgtcg | 120 |
| aagatcagcc | gtttcagcgc  | gaatacctgc  | tcaacctgtt  | tcgcgagcgc | ggcgtgcagt | 180 |
| acctggtagg | tgccggcgac  | ggcgcgagg   | cgttgcgctg  | cctgaagcag | gacaggttcg | 240 |
| acctgatcct | cagcgatctg  | atgatgccgg  | gcattggatg  | tatccaaatg | atcctgcaac | 300 |
| tgccgtatct | caagcatcgt  | ccgaagctgg  | cgtgatgag   | ctcctcgtcg | cagcggatga | 360 |
| tgctcagtcg | cagccgggtc  | gcccagagtc  | tcggcttgtc  | ggtaatcgac | ctgttgccca | 420 |
| agccgactct | gcccgaaggc  | atcggccaac  | ttctggaaca  | cctggaaaga | tgccctcagg | 480 |
| agaagctgga | gcccgaacc   | gacgagactc  | cgcattggcg  | cacggcggtg | ctggatgcc  | 540 |
| tgcataacga | gcaactgggtg | acctggttcc  | aggctaagaa  | atccctccac | accgggcgca | 600 |

|            |             |             |            |            |            |     |
|------------|-------------|-------------|------------|------------|------------|-----|
| tagtcggcgc | cgagggcgttg | atacgcctgga | gccacccgca | gcatggcctg | ttgctgcccc | 660 |
| gctgtttcat | gagtgatgtc  | gacgctaccg  | gtctgcacga | ggcgttgctc | tggcgctgct | 720 |
| tcgaacagac | cctgaacgcc  | caggaatcgt  | ggcgagggc  | gggttacgag | attccggttt | 780 |
| cggtgaatct | gccgccgcac  | ctgctcgata  | accaggaact | tccgcatcga |            | 830 |

<210> 286

<211> 987

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 286

|            |            |             |             |            |            |     |
|------------|------------|-------------|-------------|------------|------------|-----|
| tcgtatTTTT | gtatggctcg | cgtagcactt  | acttttagtga | tacatgctta | cccatgaact | 60  |
| gtattccggt | agataaggag | ctgactttta  | gtgagttctt  | gtagccatag | aactcccaa  | 120 |
| gaccatcccc | gtcgggaatt | tcagtgatcc  | catttgcaat  | gaccgatgg  | ccgcctaaac | 180 |
| ctagaagctt | gggagcatag | ggaactgctc  | catctgaaac  | ataaagggtg | ggtgagcgat | 240 |
| ggtctctatc | ttgcttccaa | gaaaagtacg  | agtgtataac  | tcctgctagt | acctcgctag | 300 |
| ccgcatcatt | cctggagaag | agtacgacat  | acggccgcca  | tcgactctca | tgctcacatg | 360 |
| aaatgcctgt | gtggaactgt | cgattctcta  | atTTTTTtat  | gagataaagt | aaggtttcct | 420 |
| ctgagctttt | ttcgagagga | ggtcggcgta  | tatcaacttt  | agatatttcg | ccagaggagg | 480 |
| atggctgcat | ccataaggga | gggtatgctc  | ctgaaatgag  | ttgatagatc | gctgacttta | 540 |
| tggagaggaa | ggggacgcaa | gggaagttgg  | aggagccaaa  | tacttgatta | cgagactttg | 600 |
| catgctcata | tgactgatc  | tctaagttag  | ttgaccatcc  | tttattacgt | atttcctctt | 660 |
| ggatgtcggt | tggaataaaa | ctgacaattg  | actcgatcca  | gcaacgagcc | tcggtactaa | 720 |
| gcgaaacggg | aaggtttcgg | tctcgcaagt  | caagaaatcg  | aaattttatt | agagtttctt | 780 |
| cgacttctaa | tttttctatt | gcgtcgaaata | tatgggttgt  | ttggattgag | gtctcttttg | 840 |
| tttcgatgag | gattagtccg | ggtagtttct  | taaagctcat  | ttgctcaaga | aaaaggacta | 900 |
| aggctggaag | tatagagtgc | tttgggtttc  | cagtaaaaac  | gacggggcca | ttctcggtat | 960 |
| attcaaggct | taaacaatat | agcgctt     |             |            |            | 987 |

<210> 287

<211> 987

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 287

|            |            |             |             |            |            |     |
|------------|------------|-------------|-------------|------------|------------|-----|
| tcgtatTTTT | gtatggctcg | cgtagcactt  | acttttagtga | tacatgctta | cccatgaact | 60  |
| gtattccggt | agataaggag | ctgactttta  | gtgagttctt  | gtagccatag | aactcccaa  | 120 |
| gaccatcccc | gtcgggaatt | tcagtgatcc  | catttgcaat  | gaccgatgg  | ccgcctaaac | 180 |
| ctagaagctt | gggagcatag | ggaactgctc  | catctgaaac  | ataaagggtg | ggtgagcgat | 240 |
| ggtctctatc | ttgcttccaa | gaaaagtacg  | agtgtataac  | tcctgctagt | acctcgctag | 300 |
| ccgcatcatt | cctggagaag | agtacgacat  | acggccgcca  | tcgactctca | tgctcacatg | 360 |
| aaatgcctgt | gtggaactgt | cgattctcta  | atTTTTTtat  | gagataaagt | aaggtttcct | 420 |
| ctgagctttt | ttcgagagga | ggtcggcgta  | tatcaacttt  | agatatttcg | ccagaggagg | 480 |
| atggctgcat | ccataaggga | gggtatgctc  | ctgaaatgag  | ttgatagatc | gctgacttta | 540 |
| tggagaggaa | ggggacgcaa | gggaagttgg  | aggagccaaa  | tacttgatta | cgagactttg | 600 |
| catgctcata | tgactgatc  | tctaagttag  | ttgaccatcc  | tttattacgt | atttcctctt | 660 |
| ggatgtcggt | tggaataaaa | ctgacaattg  | actcgatcca  | gcaacgagcc | tcggtactaa | 720 |
| gcgaaacggg | aaggtttcgg | tctcgcaagt  | caagaaatcg  | aaattttatt | agagtttctt | 780 |
| cgacttctaa | tttttctatt | gcgtcgaaata | tatgggttgt  | ttggattgag | gtctcttttg | 840 |
| tttcgatgag | gattagtccg | ggtagtttct  | taaagctcat  | ttgctcaaga | aaaaggacta | 900 |
| aggctggaag | tatagagtgc | tttgggtttc  | cagtaaaaac  | gacggggcca | ttctcggtat | 960 |
| attcaaggct | taaacaatat | agcgctt     |             |            |            | 987 |

<210> 288

<211> 1118

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 288

|             |            |             |            |            |             |      |
|-------------|------------|-------------|------------|------------|-------------|------|
| ctgcctcagc  | cagggcaaca | ccctcaccgg  | cgcaggggtc | acagatcctc | atccttcccg  | 60   |
| acggggcaag  | agtgagggcc | tgcagagcgc  | gttcgagggg | gacctcatcg | gtaggggaagt | 120  |
| agccgtttcg  | tgcaaagttg | cgcgccaagc  | gcgggaacat | gagggccatg | gggcctcctt  | 180  |
| gagtcctgaga | gggatggctc | aggcttgccg  | ctgagcatcg | gtggtaagaa | tgctttcgcg  | 240  |
| gattacctca  | ccgaggggtg | gctcaagcac  | gtcgaccgcg | agggcgagtc | gccaggcgca  | 300  |
| gacgttgccg  | atcgctcccg | gtagggccgt  | caacatctgg | tgctgggtga | gaacctccat  | 360  |
| caccggctcg  | cgccagtgcg | gcaggagggg  | gagcggacag | gtttccatca | ccagcggcca  | 420  |
| gagcctctgg  | tgtggatcct | catcgcgctg  | caggagtgcg | aaggcgaggt | gattgcctcg  | 480  |
| gtcgggcgcg  | gaggcgcgcc | gatcgaacag  | ccaaagattg | agcaggctgc | cgaacaacgt  | 540  |
| gccgcggaac  | tgacgggtgg | tgcgtttctc  | caggagatcc | tggtttggga | agacaggtaa  | 600  |
| gcggcgccg   | tccacgatga | tgtggaaatg  | gtcgatgcca | ttttcttccc | ggcccagcgt  | 660  |
| cagcctggcc  | aggaactcct | gtgtcacggg  | gtcgcgcccc | caggccgaaa | gaaagaccag  | 720  |
| gttgactcgc  | tcgtcgacac | cgcaggcgct  | gacgtacagg | tctggacact | cttcgatctg  | 780  |
| gtagagcggg  | gtgggactgg | gcatagggaac | ctcctggaag | gaggagccac | gccgcctca   | 840  |
| aggggcggtg  | aagccctcgc | gggtgtagtc  | caactggtgc | aggggagcgt | ggtggctacc  | 900  |
| gaacgctcct  | ggtgtgaggg | tcgaagctga  | gtccatcggc | ttggtgcagc | ggcccttggc  | 960  |
| cgatcaggaa  | gacctggcag | aggtactgat  | cgcgtagcgc | gacagccgct | tccgcctgct  | 1020 |
| ccaaggtcag  | cgacagctcc | tcgatgaaca  | agtcgatgag | ctcgtcgtcg | ccggcgacgt  | 1080 |
| cgttggttga  | cagttggtcc | tcgaggtagg  | cgaggggtt  |            |             | 1118 |

<210> 289

<211> 2427

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 289

|             |             |             |             |             |             |      |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| tcacgctggg  | tatgtgatgc  | tctctgcaaa  | attcagctac  | ttgatccgca  | acaccattca  | 60   |
| aggggtgaaga | tagggatagc  | aagcgaagag  | acagttttgt  | gcgttccatg  | ttaaaccggga | 120  |
| gatacacgtc  | gaagacctaa  | gccattaaaa  | cgtgctgacc  | atccagttgg  | ggcccattag  | 180  |
| gatctagcac  | agcacccattg | gtgcaactgg  | gctattttctc | ggatgtacac  | cgtttttggtg | 240  |
| caggctccgga | gagagcaggt  | ctggatttgcg | gctgctgtcg  | aaggctggcc  | tgcccggtctc | 300  |
| ggccttgttg  | gtcgtgcagc  | tgccgagcag  | caggcacagc  | gtgagagtgg  | tcaactgcct  | 360  |
| ggtcattagag | gccccctttg  | atgataggca  | cacagtggca  | ggccattcgc  | catgcttcag  | 420  |
| caggaaatac  | tcggcgagg   | atcagggtct  | ttttatccag  | ttaggcttgc  | ggctaaaagc  | 480  |
| gcgcggtttc  | cgtcgacctg  | ctcgggctcg  | atgaggtcct  | gggcaacctg  | gcgtttcgcg  | 540  |
| ttgagcagtt  | gccacagttg  | ctcgtcgatc  | gtggcctcga  | ccagtgggat  | tttcaccacg  | 600  |
| accatgcgga  | gctggccggt  | tcggtacgcg  | cggctcttcg  | cttggtcctg  | ctgaccggga  | 660  |
| gtccaggggca | ggccgaggaa  | aaacacgtag  | ttcgccgcag  | tgaggttggt  | gcccgtccct  | 720  |
| gcggccgcgc  | tagtgcatag  | gaacactcgc  | cagtcgggat  | cctgctggaa  | gcgatctatc  | 780  |
| gccttctgcc  | gcttggtgag  | cgagtcattg  | cccaccagcg  | tgacgcagcc  | gtgtccggcc  | 840  |
| tgctgcgaga  | gttcccttcag | cgcagccacg  | gtcggcttga  | actcgcagaa  | caggatcacc  | 900  |
| ttgtcctctg  | cgtcgagctc  | gctcaacagg  | tccatcgcca  | cgcgaacttt  | caccgtttcc  | 960  |
| aggtaacgcc  | gcagcgcgcc  | gagtcgcgcg  | aagaccggtc  | ggtcctcgag  | gcgcagcacg  | 1020 |
| tcgtattgct  | ggcgcttctc  | ggtggagagg  | gccaccttca  | gcaactgccg  | ctgcttgccc  | 1080 |
| ttgaggctgg  | gcagcacatc  | tttgccgctg  | cgcagcatcc  | agtcacccag  | ctccgcccgc  | 1140 |
| agactctggc  | ggaactccgc  | ggtgcggcgc  | aaacggctgc  | agaactcttt  | cagcggcagt  | 1200 |
| tgcccgatgg  | ggtggcctga  | gaggcgagc   | aggggtgtga  | gctctgtctc  | gcggttgagc  | 1260 |
| accggcgtgc  | cggtaaagcag | gtagcgggtc  | ggcacttggg  | cggcaatgtc  | gaaaccgtgc  | 1320 |
| cgcgtgcatt  | gcgcgctcgc  | ttccttccatc | cgtgcgcctc  | cgtcgatgac  | catcacggcg  | 1380 |
| aagcgcgaag  | cgttggcgac  | gaaggggctc  | aactgctcgt  | agttgacgag  | gatccactgc  | 1440 |
| gcctctgggg  | tgctctgctg  | gatggccacg  | gtggccgagg  | gatagacctc  | ctggatctcc  | 1500 |
| cgtgcgaat   | tgatcagcag  | ggtagccagg  | gtgatgacca  | ggattgggtc  | gcccgcgcgc  | 1560 |
| cggatcgaag  | cggcgatgac  | cgccctggcg  | gtcttgccca  | atcccatgtc  | gtcggccaat  | 1620 |
| aaggcgctgg  | ttctctgcag  | cagatgagcg  | atgccgtcag  | gctgggtggc  | cagtagagag  | 1680 |
| tagccctgaa  | gcgcgcgctc  | gatatcagcc  | gagctgtact  | cgggtgcgctc | gatctccggc  | 1740 |
| accgcggcga  | ggtagatgtc  | agaggctgac  | tcgtcctcca  | gggatggcgc  | tgccggttcc  | 1800 |
| tgctgtggac  | cgccgatgct  | catgctgggc  | agctcggtcg  | acggcgcgaa  | gctgccgtcg  | 1860 |
| ctgagcagct  | cctggacagt  | atccagaatc  | tcgaattgtt  | cctcggcgag  | gccaagctcc  | 1920 |
| agaatcaggt  | tgcttcggag  | cagctcggga  | gtggtgtcga  | tgcgccagga  | actcgatggg  | 1980 |

|            |            |             |             |            |            |      |
|------------|------------|-------------|-------------|------------|------------|------|
| cgcaggaata | ccccgcgcat | ccgcgcgagcc | accgccacaa  | caccaggatg | gaactcgcct | 2040 |
| gacagtagga | cgccgccctc | ggccaggggc  | gcgatgcgca  | gcagcatccc | ccaggtgaag | 2100 |
| gcctgtcggg | caagcgaggc | ctgcgcggat  | tcgaccaagg  | agctgaactc | ccgccaggac | 2160 |
| tgggagtgaa | ggcctccagc | tagctcggcg  | agacggttgt  | acagagtgtc | cagttcaggc | 2220 |
| agcagcttgc | ctttggggac | ccgccagtag  | cgggtgcaacg | gatgctcccg | ggcgtgatg  | 2280 |
| aagaagcccg | acagctccag | cagcgcgcg   | ttgctgcctg  | cgatgtaggg | gatcttcaag | 2340 |
| ccgaagtcgt | agccgtcgaa | gatagcccgc  | tgcagaagcg  | tcgaagggtg | cgcggaggta | 2400 |
| cgattaacca | ggcgtggacg | gttcac      |             |            |            | 2427 |

<210> 290

<211> 1185

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 290

|            |             |             |             |             |             |      |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| ggagttgagg | tgggtgcggca | ggtgtgggca  | ggtcgaccag  | agtgcgcggg  | cggttgcctc  | 60   |
| gctgcccgtt | ggtaatctcg  | agcaggatth  | ggtcataacg  | caggcccagg  | gggcgcttca  | 120  |
| tttgggtgat | gagttcgtcc  | tggaaacgct  | cgaaaatgaa  | ttcgtcaggg  | ctactgtcga  | 180  |
| agattgccag | ggtgtcctgg  | aacagcattt  | cgaagtcaac  | cccttcacca  | gcgtatagac  | 240  |
| gtgcccagca | ggaggatgcc  | gactttctga  | gtgacaggag  | tttctcgatt  | tgcggtttac  | 300  |
| cgagccctga | atacagcatc  | acaggaatcg  | ccggcgccaa  | tacctcaata  | gtgtctaaca  | 360  |
| tcttactgat | atgggattga  | gatacagggt  | agccgtccgc  | ttttagccga  | cgtgccaaact | 420  |
| cgcgctggga | aatgctttca  | ccgcggttct  | cttggttcgta | aagaaatttc  | gccttctgca  | 480  |
| ccccaaccgc | gcgctcgatg  | aacttgagggt | cgcccttcag  | atcgttctcg  | gccaaatgac  | 540  |
| cggtcagcgc | gatgatttgc  | ccgcgctgct  | tgtcccaggg  | cttgaacagg  | cagtcgaagc  | 600  |
| tgaaatagcg | ctcgtctccg  | gtctctttgt  | agaggtcggt  | gagaatttcc  | aggcgagtgt  | 660  |
| ttccgcggtt | gcgaatgcgg  | tatttgtcct  | ctccagggcg  | tcgagtcact  | ggtggcgggc  | 720  |
| tatcgaggcc | tcgatgtcgg  | atcgattctt  | tcagctcacc  | gtatttcggg  | tttcgagtgg  | 780  |
| tccggggggt | atcggtccag  | gggaggacgt  | cgtggagtgt  | cagcctcatg  | ggcgtgtcgc  | 840  |
| tgatcgggtc | cgacaactgc  | tccagaacct  | tgggcggtgc  | ggtaaaacca  | ggggcaagta  | 900  |
| gccggtcttt | cagatcttgc  | gggttgatct  | tggccatact  | catgcctccg  | ccacctgagg  | 960  |
| cgtgttcgcc | gccgccagct  | cagcctgcag  | gcgctggttc  | ttggcgaaga  | gttcgtcgac  | 1020 |
| cattcggttt | gctcgcgcga  | gttcttcttc  | gagcgcgttg  | ctgcgctcca  | gtcggtagac  | 1080 |
| gatctcgctg | ttggccgaac  | ggtgggttatc | cgcggctttt  | tgcttttagct | gatcgcgcaa  | 1140 |
| gccaaggggc | atacggacaa  | cgaacttatc  | ttcggtttct  | cgggc       |             | 1185 |